

Why worry about the elms?

This is a vexatious question that has been asked by many people who advocate planting native and indigenous vegetation. Their argument is that the elm has so many problems, is not native and therefore we should not worry too much if they all perish. This argument is naive and demonstrates ignorance of the real issues of conservation. The reasons why we should not give up on the elms are summarized by Heybroek (1993):

- *The beauty of the elms.* Beauty is one of the ultimate human values which makes a person more sensitive and human. Meeting beauty can dissolve stress. Investing in elms is investing in beauty.
- *The functional properties of elms,* especially as urban trees. It can tolerate a range of unfavourable conditions and maltreatments including pollarding and root mutilation. It can grow in poor soils, wet and poorly-aerated clay soils.
- *Their cultural history.* Elms have as many as 5000 years of association with human culture and civilization.
- *Their contribution to biodiversity.* Elm trees provide a habitat for many organisms; many species of insects and epiphytes depend on elms for existence. The death of all elms in a locality will decrease local biodiversity of course. Also the death of a species and the loss of the gene pool of that species is irreversible. People should realise that the threat to the elm is a threat to biodiversity.

Conclusion

Despite some of the problems associated with elm trees, particularly with the beetles and the impending threat of Dutch elm disease, elm trees deserve proper protection and care. The City of Melbourne has taken a responsible and proactive approach to the management of the elm trees. The Council will continue to take up a leadership role in all aspects of urban forest management in the future and will continue to develop its arboricultural expertise in order to assist any other municipality in their arboricultural pursuits.

References

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Getting the message across to the community

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Introduction

Working at 'grass roots level' is a familiar phrase, one that is particularly appropriate in the management of pests and diseases involving community icons. "Community icons" is, I believe, a fair description for elm trees in Victoria. The trees are old and long established, they bestow character, they typify Melbourne, particularly the inner suburbs and their seasonal change – an elm tree is beautiful at all times of the year – is a real asset.

The management of pests and diseases in these trees necessarily involves expert knowledge, scientific research and public money where the trees grow on public land, but as well, there is a real role to be played by people on the street, at the grass roots – by people who have elm trees in their own gardens, people who use parks where elm trees grow, people who take an interest in places where elm trees grow, people who take an interest in places where elm trees sucker and all too often receive little or no care and attention. Such people can become eyes and ears for the experts. They can back up and broaden their work.

Members of the community in general believe that trees planted on public land are not their responsibility. This is a local assumption: indeed, as a ratepayer, I expect my local council to take overall responsibility for the trees planted in its parks and along its streets and medium strips, just as I expect the railways to care for trees on railway embankments, Melbourne Water to maintain the trees on land it manages, and the state government to look after trees in national parks. However, I recognize that as a member of the public, I can help by informing these authorities when something is amiss – a fallen tree or branch, a tree that looks particularly unwell. And when it comes to elms, I know, thanks to Friends of the Elms, what to look for.

Friends of the Elms

Our community group, Friends of the Elms, sees it as one of our roles to marshal and inform the public, to tell them what can go wrong with elm trees and how to deal with it, and in so doing, to advance the cause of elm trees in Melbourne and Victoria and make people more aware of them. Let me begin by telling you about our group, how it began and exactly what it does.

More than three years ago I wrote an article for The Age that highlighted the

existence of the elm leaf beetle on the Mornington Peninsula, and of Dutch elm disease then newly discovered in New Zealand. The article posed questions about the long-term future of Melbourne's elms. Then by chance, at a drinks party, I was introduced by a friend to Alison Leslie, who had read the article and who felt concerned about the possible fate of the elms that give Melbourne so much of its charm and historic character. "We must do something; we ought to get together", she said. Alison is an energetic person who has done time as president of the Royal Women's Hospital and she knows the value of community workers. She felt we should form a group to take a special interest in elm trees. So we each suggested a few people who might join, and we called a meeting. A committee was set up, Friends of the Elms was born late in 1990, and the group has met almost monthly since that time.

Our first aim, of course, was to build membership. Each committee member persuaded a few friends of family members to join, which gave us a nucleus. I should add here that of the original committee, some were friends, some acquaintances and others family members of Alison or myself, some lived in areas rich in elm trees, and others were asked to join for reasons of particular expertise. Beyond the common interest in elms, this mix provided some depth and continuity for our working group, made meetings and functions most pleasant affairs, and has been, I believe, a factor in its continued existence. Then we had a brochure printed, which detailed our aims and the threats to the elms in an effort – which continues – to enable lay people to distinguish between the elm leaf beetle and the elm bark beetle. We distributed our brochure, free of charge, as an insert in a variety of magazines and newsletters. We took paid advertisements in a couple of gardening magazines. We sought free publicity and were lucky enough to get mentions on Burke's Backyard, in The Age and in the Australian Garden Journal. Our membership was soon more than 200 and the enthusiasm was very real.

I quote from letters written by some early subscribers:

"I live in close proximity to Temple Park Brunswick. I would be willing to record and monitor the health of the two avenues of elm trees in the park. My

qualification is associate diploma in horticulture..."

"I enclose \$50 for two memberships, plus a donation for myself in Mont Albert, and for Lydie Hooper in Malvern. Lydie, in her three-wheeled battery powered chair, makes eager daily visits to her favourite trees in local parks and gardens. She is 95. And thanks for your efforts to save the elms..."

"I have a 100-year old *Ulmus procera* in my yard (in Mittagong, NSW) and am concerned over any impending danger to my beloved tree. I would appreciate any advice and guidance concerning these trees..."

Our first subscribers included not only people like these, but schools, garden clubs and local councils (sadly, the councils were very few in number, and they remain so). Also, I don't believe we number among our members any nurseries or arboriculturists. For many, joining up was a knee-jerk reaction to perceived danger to the elm trees, but many also were in search of help and advice. Who do we talk to? What do we do if we spot beetles? These questions were a recurring theme and this is why we believe our quarterly newsletter, ELM WATCH, is a vital part of what we do. In it we monitor developments both here and abroad, and we prepare or reprint articles which will give practical assistance to elm tree lovers and owners.

The newsletter has become a little more glamorous as the years have elapsed, but the basic message remains the same. "Our elms need friends. They need you now". Our aims are:

- dissemination of information to the public about threats to elm trees
- recording and monitoring the health of elm trees
- raising funds to support research related to pests and diseases of elm trees.

For all these, we need members and any voluntary organization will tell you that retaining membership, especially in a time of recession, is a difficult and never-ending task. We do it in several ways.

We continue to seek free publicity for what we do, in newspapers and magazines, always including our contact address – we are lucky enough to have a 'postbox' at the National Herbarium, as do several garden-oriented groups. We also have a leaflet box for distribution of our brochures in the Fitzroy Gardens, and a large promotional sign next to the golden elm at the corner of Alexandra Avenue and Punt Road in South Yarra. Both were installed free for us by the Melbourne City Council whose parks and gardens director, Peter Harrison, is a valued member of our committee.

This year we will do another mail-out of our information leaflets. For almost two years committee members and

friends put these leaflets into letterboxes of houses and flats in Melbourne streets that are planted with elm trees, and this brought us some valued new members. The letterboxing was an arduous task. Most of the work in plotting the streets was done by one of our hardest working committee members, Ralph Neale, editor of Landscape Australia magazine. He contacted municipal councils in inner and middle suburbs asking for names of streets planted with elms, and when the response came in – which often took some considerable time, and indeed, some never came – he bundled up the leaflets and organized volunteers to deliver them.

Each year, too, we try to hold a public function (from which we either seek free publicity, or pay for advertisements) to put our name before the public. We have held worthwhile and interesting elm tree-oriented lectures and symposiums, but financially our most successful venture was a lecture on garden design by a visiting English landscaper. He scarcely mentioned elms but we did draw a capacity audience and, of course, our name was prominent on all the dodgers and coloured advertising material we displayed in leading nurseries around Melbourne. Our annual general meeting for members is another potentially public occasion at which we try to provide an interesting guest speaker.

Word of mouth is a valuable tool. Occasionally the committee asks friends to join the group, or do mail-outs to friends and this brings new members. In 1991–92, as a fund-raiser, we produced a most attractive note card. This sold really well, to members through our newsletter and through stalls manned at annual general meetings, and to the wider public through stalls at gardening days, sales at nurseries, and (free) media coverage. Again we believe we brought our name, and thus awareness of elm trees, to a wider public.

And of course, there is the newsletter into which we put so much of our time and resources and which we hope that members will share with others, to bring us new membership and to spread the word. We also send the newsletter to 30–40 newspapers and media organizations who are free to reprint articles which they find of interest.

Last, but not least, is the valued community support given us by the Melbourne group. Twice this residents' group has held a neighbourhood drinks party at which we were invited to promote ourselves, and it has directed proceeds from the meeting to us. You could talk about vested interest since East Melbourne is so rich in elm trees, but they don't have to help us, and we are extremely grateful to them.

All this effort, yet membership, our

main source of funds, remains a constant struggle. Presently our numbers are down from our high point in 1992 of nearly 300. We pursue people who do not renew their subscription (very politely, of course), first through a basic reminder in the newsletter, second through a more pointed reminder – a coloured spot on the outside of the newsletter – and last through a personal letter. This pays off in some cases. I suppose it comes back to community responsibility. Some people join the group – our annual membership is \$15 single, \$20 for a household or school group, and \$100 for a commercial/corporate member – as an immediate response which they may not repeat, while for others the commitment is longer-term. We have to do our bit by providing as much as possible for our members.

Financially we have been pretty successful, and we are very proud of our achievements in directing funds we have generated to research and practical help for the elms.

In 1992 we donated \$1000 to the Melbourne City Council to go towards care and maintenance of the golden elm mentioned above, at the bottom of the Punt Road hill. This is a Melbourne landmark and we are privileged to help look after it.

Then last year we contributed \$5350 towards a research project to prepare a contingency plan for dealing with Dutch elm disease in Australia, should it arrive. This was half the total cost of the project, which we were told may not have gone ahead without our donation. This is indeed a worthwhile use for funds generated by community effort.

There is one more aspect to our work. We try to provide a resource for people or groups whose elm trees are threatened – we have been active in fights to save old elm trees in Malmsbury and in Healesville, where local councils either threatened to fell lines of old elms, or actually began cutting them down – and we try in a range of ways to help cope with the problems, current or potential, posed by pests and diseases of elm trees. For instance, we recognize that if Dutch elm disease arrives in this country, it will have been imported, and we are seeking liaison with Customs authorities to ensure that all quarantine officials are fully aware of the need to carefully examine wooden furniture, artefacts and packing cases entering Australian ports. We recognize, too, that not all elm species and cultivars are equally susceptible to Dutch elm disease and through our newsletter we are discussing different elms planted in other parts of the world and Australia, as well as the breeding and development of resistant cultivars. We are aware that we must keep in touch with political authorities at all levels so we try to keep relevant state government departments (and

the state Opposition, when interest was expressed by Mark Birrell when in opposition) informed.

This information, of course, is all particular to Friends of the Elms, but I would encourage anyone who wants to mobilize support for the elms in his or her area to employ some or all of these techniques. They've worked for us, so they should do so again.

Generally speaking I believe councils with elm trees in their care need to educate their staff. Staff should be able to recognize the symptoms of elm leaf beetle attack, and of Dutch elm disease if it strikes (the New Zealand outbreak was spotted by an alert council worker). They need to be competent enough to call for expert help where this is warranted, and they need to realize that local residents are inclined to feel possessive about old trees. Here I quote from a newspaper article written last May after the Shire of Kyneton began felling a stand of 74 elm trees in Malmsbury:

"A council spokesman said (Kyneton Shire Council) now realized it should have talked to the residents before deciding about the trees. It has agreed to call in a tree surgeon to inspect them before taking any further action. He said council officers had believed the trees were in poor condition".

Once the contingency report for Dutch elm disease which I referred to earlier is published, all affected councils need to be familiar with its provisions because prompt action is vital if the disease breaks out. Councils also need to know what is happening with the elm leaf beetle research project and – this is most important – they should have a management strategy in existence in case the beetle begins to feed on elm trees in their municipality.

But where are the elm trees? To locate each elm tree on public and private land in all municipalities is a logistic nightmare, but one with which the community can help. To raise general awareness, local newspapers should be used regularly for news and feature stories. These could be as general as a historic or human interest story about a fine old tree, or as specific as the news of a new outbreak of elm leaf beetle and the way the council is treating it. Illustrated leaflets about identification and control of the beetle could be put in letterboxes. Journalists who have written previous stories or who show an interest in the subject should be cultivated. Phone them up, keep them regularly informed. Journalists are always anxious to expand their contacts or be first to a good story.

In summary, members of the community must be encouraged to feel some sense of responsibility for the elms that are such a feature of Victoria (and some

other parts of Australia). They must recognize that many of these beautiful trees are very old, and susceptible to pests and disease. Ideally they should keep an eye on them and report outbreaks of disease. Today people "out there" cannot expect the authorities to do everything; a joint effort is much better for all concerned. For

our part, Friends of the Elms would like to see more response to our own efforts from municipal councils right across Victoria. After all, a few dollars annually is a small price to pay for information which may help you in your area to preserve or enhance some of the trees that help create its character.

Dutch elm disease – contingency plan

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Introduction

Dutch elm disease was first described in the Netherlands in 1920. Since then, it has spread through Europe and North America. More recently it has been detected in New Zealand. It has killed several million trees, mainly in the course of two epidemics, the first prior to the 1960s and the second beginning in the late 1960s. The latter epidemic has been responsible for the greater number of deaths. The disease is caused by a fungus, commonly known as *Ceratocystis ulmi*. Recently, however, it has been renamed *Ophiostoma ulmi*. The fungus associated with the second (current) epidemic was considered to be a particularly aggressive strain of *O. ulmi*; research in England has shown that it is, in fact, a different species, named *O. novo-ulmi*.

The fungus spreads from tree to tree by various bark beetles. The main vector is the smaller European elm bark beetle, which feeds and breeds in elm and in so doing, emerges from infected elm trees contaminated with spores of the fungus which are then carried to healthy elms. This beetle is widely distributed in Australia, having been introduced, but without the fungus, in the 1970s.

A second means of spread, particularly in close plantings such as in avenues and in wild situations, is by root grafts. There are no other direct means of spread such as in air, by wind or in rainsplash, as occurs with many other fungi. Spread is greatly facilitated by man, within and between countries. Beetles have obtained free rides in containers on ships, planes and on cars. The fungus has been spread in timber and firewood. In addition, man has greatly influenced the way epidemics have developed, by his management and distribution of the host population. Hence in Australia, the elm population has low genetic variability, having been propagated from only a few imported plants. Avenue plantations probably comprise only a few clones and are almost genetically identical. The elms in Australia are highly susceptible to Dutch elm disease, and should the disease arrive, it will spread very rapidly.

Control of Dutch elm disease

There are four chronologically distinct phases to minimizing the impact of Dutch elm disease:

1. exclusion of the fungus,
2. pre-introduction,
3. eradication and
4. containment.

Exclusion

The history of the spread of Dutch elm disease in North America and Europe indicates that unbarked elm logs or timber contaminated with both the fungus and the beetle present the greatest risk of entry of Dutch elm disease into Australia. Unbarked logs infected only with the fungus pose a risk, because the bark can remain suitable for beetle infestation for a considerable time after cutting, by the beetle population already in Australia.

Spores are short lived and beetles may fly up to 10 kilometres in search of elms for feeding and breeding. Hence long distance transmission is unlikely. The geographic isolation of Australia and the short range of natural Dutch elm disease dispersals suggest that Dutch elm disease incursions will be man assisted. In these circumstances, quarantine presents a practicable means of Dutch elm disease exclusion.

Quarantine is a form of hazard management and of acceptable risk, providing a level of security against the entry of unwanted pests and diseases that is considered cost effective and scientifically justifiable.

Risk assessment requires both biological and economic inputs and the bio-economic analysis determines the level and cost of quarantine. Such an analysis for Dutch elm disease is somewhat different from that for, say, fire blight of apples. Because resources for quarantine are limited, it is essential that they be directed for maximum effect.

Existing quarantine regulations prohibit importation of elm without permit and require various testing procedures to gain permits. A major risk lies in dunnage, the low grade timber used for packaging and which will be destroyed at