

The Illawarra farm forestry project

by Richard Scarborough

The Illawarra Farm Forestry Project was started to set up demonstration plantings for an ongoing research and monitoring program. Local property owners provided sites for these plantings, and the Department of Biological Sciences, as project host, provided the resources for seed collecting and growing trees at Campus East.

In all we planted 12 formal demonstration sites, as well as provided trees for 15 schools and around 10 local parks (when the YWCA ran LEAP programs).

There are a suite of interdependent aims associated with our project, relating to conservation, landscape restoration, local economic development, employment and rural amenity.

Our overall objectives were to:

- * Test a range of local Illawarra tree species for use in forest lots;
- * Determine the propagation and plantation conditions required for optimal growth;
- * Integrate the development of forest lots on cleared rural land with conservation objectives;
- * Develop a set of demonstration forest lots in order to encourage further plantings on private land;
- * To feature a broad range of planting designs and species mixes.

Project design and early history

Given the strategic focus of the Illawarra Escarpment we set out to design and plant forestry systems that would not merely be compatible as an adjoining land use to native forests, but also practically enhance the ecological integrity and recovery of our local forest communities.

There are 2 easily measured outcomes that will be beneficial to ecological restoration programs:

- 1) the populations of individual native species should increase, and
- 2) the area of native vegetation should increase by extending back onto areas from which it was originally cleared.

We took the basic approach that the diversity of the natural forests in the Illawarra was well worth replicating as a system that would produce valuable forest products. However, our high diversity plantations have also been designed for maintenance and for harvest, and they lack the shrub and fern understorey components.

There were two main criteria involved in species selection. Firstly, for the trees to have current, marketable uses, or as in the case of most of the rainforest species, they were known and used in the past. Secondly, that they reached a suitable size in the local region to enable commercial milling or specialist uses such as carving and turnery, or could be used in the round.

Provided skeptics bring walking boots, it can be shown that the species used all actually reach a good size and have nice form when found in natural forest communities locally.

As for an insight into the timber qualities of local trees, the technical literature available to those in Australia with botanical and forestry interests is an enormous credit to the pioneering work that went on, in

all States, in this field. For the Illawarra, around 80 species of local tree have some record or ongoing history of use. But even in 1919, Richard Baker was concerned that, in the general sense, our great diversity of rainforest timbers would no longer be available, unless we took to conservative measures and replanting.

What was true then is undoubtedly more so now. The short cut taken by the Illawarra Farm Forestry Project has been to collect seed from local trees, grow it at Campus East, and plant it out or give it away. Provenance records have been kept during this stage of the work, with around 70 species grown.

Insights from local forest

In many ways, these multi-species plantings parallel the young, regenerating forest communities in lantana patches on the



Farm Forester and local gnome Richard Scarborough at Campus East helping trees after last year's floods..

Escarpment and farmland in the Illawarra. Logging, clearing and farming, with bushfires too, has historically kept the hills clear to surprising heights up the Escarpment, and on all but the steepest and rockiest slopes. Since the 1940's the forest has been regrowing, and more so after the 1968 fires. These regenerated forests will give an insight into how ecological successional processes are working locally, and roughly what size certain trees get at those ages.

In parallel with native regenerated forest, there is the possibility to look at the development of timber plantations as an ecological entity, with food and habitat values. The design of multi-species plantations, particularly those that include long lived rainforest trees, can provide long term ecological benefits. High species' diversity will provide a range of fruit and flower types, with their insect faunas also for food. As many species will be allowed to mature for 50 to 80 years, and some for more than 100 years, this will be a stable resource over time. Ecological sustainability, in the sense of life support for wildlife, is part of the overall design inherent in our work.

From a marketing viewpoint, most of the plantings are a mix of early and late maturing trees. Blocks of eucalypts will provide both early returns in thinning, and also larger diameter saw logs at the final harvest age. Blocks of rainforest trees will provide a range of quality craft timbers, which due to their longevity, will be the wealth of the generations to come.

However, it will be interesting to see which other species, especially amongst the rainforest species, can produce a quality sawn or craft timber, in 15 - 25 years like Blackwood, or good size trees by the time the larger Eucalypts are harvested at 30 to 40 years. Given these time frames, it will be the way we approach value adding in the furniture and craft industries for some of the "exotic" local species, that will determine their economic potential, not an overwhelming regional log resource, or even the large diameter of individual logs.

Catching interest from the pragmatists

It is interesting to try to sell these ideas to the rate paying farming community, particularly waiting 50 to 80 years or more to harvest!

As it turned out, we also helped establish plantation systems that used a more focussed selection of high value eucalypt species. This type of hardwood plantation is more likely to return an income in the shorter term than rainforest plantations - which is why our rainforest sites also have eucalypts.

Not including specialist uses or human whimsicalness, eucalypts will cover most of the desired products as substitutes for the slower growing rainforest species. Apart from their use in building and heavy construction work, as posts, poles and a variety of sawn timber products, many eucalypts are being used to good effect for furniture making, and as features in wall panelling and flooring.

This is a very important point, because we must be able to demonstrate clear economic viability, and covering the short term too. It is entirely true that at this stage, we know much more about our eucalypts to confidently recommend their use in plantation systems than we do about our local rainforest trees. A good balance would be the combination of both rainforest cabinet timber production with the shorter term rotations of eucalypts for rounds and saw logs.

However, it is nonetheless vitally important from the perspective of research and development, to objectively assess all potentially valuable species. It was felt that in the very first instance of plantation development in the Illawarra, we should allow for all possibilities in species' selection, particularly where we have the opportunity to develop specialist furniture and craftwork industries based on what will be rare, plantation-grown native rainforest species. It is in this sense that many of the planting designs are experimental, and the future growth and development of the plantations will be new, novel and well worth monitoring and recording.

THE UNIVERSITY ENVIRONMENT

As the administration begins attempts to contract out security to a private mob of thugs, the university worker is becoming an increasingly endangered species, facing disease and dangerous predators.



Al Turner has the scoop

As jungles disappear and animals fade into extinction on the other side of the world, it's easy to forget that there are serious problems right here under our nose.

Here in our own university environment there is another species currently threatened with extinction - the already endangered satisfied employee, otherwise known as The Worker.

This gentle creature has been a part of the university landscape since foundation, but now the very surroundings that brought it into being have turned on it, putting not just The Worker, but the entire university and local community in jeopardy.

Many sub-species have evolved since this creature's inception, which means that there is now a wide and varied cross-section of Workers who are at risk: The Food Worker, The Garden Worker, The Academic Worker, the list goes on.

Why are these industrious and lovable creatures at risk? A dangerous introduced species called The Nigel Pennington, from the Management family, is the newest threat to many of these vulnerable Workers. However, many others are still facing the menace of the infamous Gerard Sutton.

The Sutton, although rarely seen, has wreaked havoc on The Worker's environment. Being of cold blood, The Sutton can only leave his natural environment of heated offices containing leather lounges, expensive artworks and whiskey cabinets, for short periods. These periods are usually reserved for mating rituals with The Local Media, or destructive rampages through the university in which he will plunder funding that is necessary to the survival of the university environment. After such ravages, The Sutton usually retires to his safely sheltered climate, where he hoards his loot.

The Pennington is much less subtle in his sabotage; blatantly slashing pay, working hours and staffing numbers in his feeding frenzies. Retaliation from weakened Workers or their supporters is usually met with supercilious silence, or complete refusal to return the desperately needed provisions. Any comment made on this behaviour usually instigates a wild temper tantrum in The Pennington, who then threatens the commentator with the introduction of another dreaded species, The Lawyer.

Workers are also being threatened by a slowly spreading virus that has seen the pointless deaths of many thousands of innocent Workers. This virus, known as Enterpris Bargainitis, can also effect those who sacrifice many hours of each day attempting to protect the welfare of The Worker. Worker Welfare Agents, otherwise known collectively as Unions, have suffered their own great losses from this killer disease.

Enterpris Bargainitis not only destroys Workers and Unions, it can actually enhance the strength of The Sutton and The Pennington, giving them even more power to slash and steal. Those who are infected have sometimes been lured by the attractive appearance of the Bargainitis germ. Once the hapless worker has been tricked into approaching the germ it then strikes, usually delivering a deadly blow. It has recently been discovered that The Sutton and The Pennington are actual carriers of this disease, and any contact with them usually means infection.

Unless something is done to assist these species in need, The Worker may very well disappear from the face of the university. Once they are gone, many other beautiful species will be under threat, not the least of which is The Student, an amiable species that has also fallen victim to these two cruel beasts.