



**A** Sydney Turpentine Ironbark Forest with *Pittosporum* in the understory

## ***Pittosporum undulatum* – TRAITOR OR SURVIVOR?**

Jocelyn Howell, Plant Sciences, Royal Botanic Gardens, Mrs Macquaries Road, Sydney, NSW, 2000.  
Jocelyn.Howell@rbgsyd.nsw.gov.au

*Pittosporum undulatum*, known as Sweet Pittosporum or simply Pittosporum, is a small tree native to certain moist forests and woodlands on fertile soils on the coast and nearby ranges in southeastern Australia. Its natural range extends from southern Queensland to eastern Victoria. At the western end of its range it was recorded “in rocky places about Western Port” by Mueller in 1860. In recent years, concern about its spread particularly in Victoria has seen it branded nationally as an “environmental weed”. In Sydney however, calling it a weed puts at risk scarce remnants of vegetation where it is native.

### **A TRAITOR TO THE CAUSE ?**

Unlike many native plants, *Pittosporum undulatum* appears to be expanding its range under European settlement. Why? Bird-dispersed seeds and the ability to recruit without fire give it an advantage over many native species that require fire to germinate soil-stored seed and clear a “seed bed” for new plants. Pittosporum’s dense foliage tends to suppress growth of plants beneath, giving it the reputation of reducing biodiversity. In Sydney, its natural shale soil habitats have been mostly cleared, but increased moisture and soil nutrients run off settled areas into adjacent bushland on sandstone, making edges of this infertile habitat suitable for it. As it colonises changed habitats, it is accused of “invading” bushland, and attacked with a vehemence normally reserved for traitors!



**B** Understorey containing *Pittosporum undulatum* was bulldozed in this STIF remnant on private land.

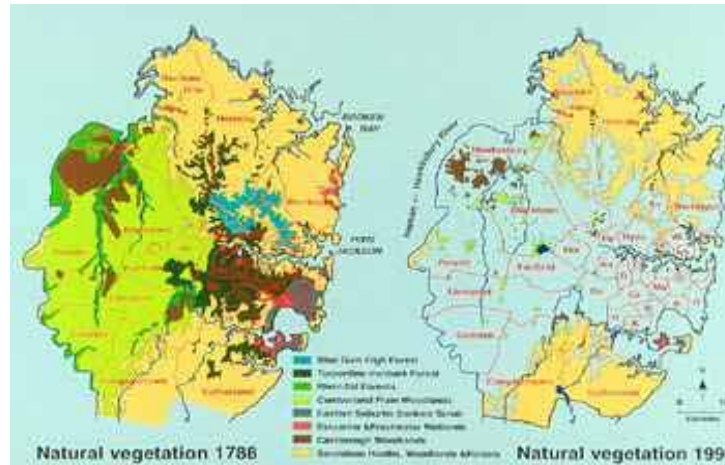
### **SURVIVING IN SCARCE SYDNEY REMNANTS**

Around Sydney, *Pittosporum undulatum* occurs naturally in widespread sandstone gully habitats, and in the understory of two rare vegetation types, Blue Gum High Forest (BGHF) and Sydney Turpentine Ironbark Forest (STIF). Each type of forest has been reduced to about 1% of its former extent, much of which persists as small patches on edges of privately-owned farmland. Each forest type has been gazetted an Endangered Ecological Community (EEC) under the NSW Threatened Species Conservation Act 1995.

Compare the maps of **Sydney’s Natural vegetation 1788 and 1990** – almost all the aqua blue and khaki green indicating these EECs in eastern Sydney has disappeared.

### **COMMUNICATION GONE WRONG**

*Pittosporum undulatum* has been branded an “environmental weed” and literature with this message distributed nationally. The ESA Bulletin of December 2000 contained a thesis summary entitled “The ecology of *Pittosporum undulatum* .... an environmental weed in southeast Australia”. The message members of the general public receive from the term “environmental weed” is that Pittosporum’s a weed that’s bad for the environment, and should be eliminated! If they see it growing, even in scarce remnants of its native habitat, they may bulldoze the whole understory and all its associated biodiversity. This is what happened to convert forest like that in photo A to the scene in photo B. Landowners may think they are doing the right thing, because of statements like the thesis title above! Or less well-intentioned people may use Pittosporum’s presence as an excuse to get rid of bushland.



### **HUMAN-INDUCED HABITAT CHANGES CAUSE “THE PROBLEM”**

Similarly to elsewhere, around Sydney *Pittosporum undulatum* has also been accused of invading bushland on sandstone, and reducing biodiversity there. But invasion only extends as far as humans have modified the habitat with -

- increased soil moisture and nutrients in runoff from farms and gardens, and
- reduced fire frequency close to houses.

Unlike many understory species in bushland on sandstone, Pittosporum recruits without fire. Its seed is dispersed by ants and birds, and plants may therefore spread and increase in bushland where fire frequency has been reduced. Simply removing Pittosporum without addressing the other habitat changes will not restore the former vegetation.

### **WHAT CAN WE DO?**

- **STOP** calling *Pittosporum undulatum* an “environmental weed in southeastern Australia”. STOP using the words “Pittosporum” and “weed” in the same sentence, unless clearly qualified
- **SPECIFY PRECISELY THE LOCATION** when discussing situations where it may be perceived as a problem invader
- **USE ONLY ECOLOGICALLY QUALIFIED** people and bush regenerators to reduce its abundance where necessary as part of **INTEGRATED MANAGEMENT** of native vegetation
- **USE RATHER THAN ABUSE** Pittosporum in its natural range - to suppress weeds and hazardous fuel growth on bushland edges!

Otherwise, more biodiversity will be lost, as forest like that in A is converted to scenes like B.

### **A THOUGHT FOR THE FUTURE -**

#### **CONSIDER THE IMPLICATIONS OF CLIMATE CHANGE -**

**Will all species that alter their range under changed climatic conditions be branded “environmental weeds” and eradicated from new habitats?**