

ELEMENT STEWARDSHIP ABSTRACT  
for

*Acacia melanoxylon*

Blackwood Acacia

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The Nature Conservancy  
Element Stewardship Abstract  
For ACACIA MELANOXYLON

## I. IDENTIFIERS

Common Name: BLACKWOOD ACACIA

Global Rank: G?

### General Description:

A medium sized tree of the legume family (Fabaceae).

## II. STEWARDSHIP SUMMARY

Blackwood acacia is a potentially invasive species in Hawaii. However, its potential is limited by its apparent lack of regeneration from seed. Massive recruitment from seed following disturbance is possible. Production of viable seed and seedling recruitment should be monitored. Until then, the most logical management program is to quarantine blackwood acacia within the pine plantations while controlling root suckers that escape from the plantation.

## III. NATURAL HISTORY

### Range:

Native of Australia, it was introduced as a forestry planting to Hawaii, New Zealand, and South Africa.

### Habitat:

Native of rainforest areas in southeastern Australia, it was introduced to Hawaii as a forestry planting (Nelson and Schubert 1976). It has been planted sparingly in wet to mesic habitats (Skolmen pers. comm.), and is best adapted to cool, moist sites (Nelson and Schubert 1976). It is found in Waikamoi Preserve but not Kamakou Preserve.

### Ecology:

The ecology of this species in Hawaii is poorly understood. There is a plethora of literature on this species from Australia, South Africa, and New Zealand dealing with its wood qualities and use in forestry.

### Reproduction:

Blackwood acacia is a moderately fast growing species in Hawaii (Nelson and Scubert 1976, Little and Skolmen 1989). Its main and possibly only means of reproduction in Hawaii may be vegetative through root sprouting. Viable seeds have been produced in Hawaii, at least from trees used as a seed source for forestry plantings (location unknown). Blackwood acacia regenerates from seed in its native range, and copious seedling recruitment is responsible for its invasiveness in South Africa (De Zwaan, 1980).

Blackwood acacia is apparently fire-stimulated, with prolific regeneration from seed after fire (Hill 1982).

#### IV. CONDITION

##### Threats:

Smith (1985) lists blackwood acacia as one of 33 alien species which should be monitored as potential threats to native ecosystems. This species is spreading vegetatively in pine plantations in Waikamoi Preserve, and has begun to escape from the plantations into adjacent drainages. The magnitude of its threat to native ecosystems is limited if its spread is exclusively vegetative. If reproduction from seed becomes common, the potential for invasiveness is considerably greater.

##### Trend:

In Hawaii, invasive in some areas; spreading vegetatively in pine plantations in Waikamoi Preserve, and has begun to escape from the plantations into adjacent drainages.

#### V. MANAGEMENT/MONITORING

##### Management Requirements:

Control of root sprouts escaping the plantations into drainages in Waikamoi should first be controlled. Then all blackwood acacia near the edges of the plantations should be treated.

Effective control methods have not been developed yet. Some preliminary studies to identify biocontrol agents in its home range have been conducted (Den Berg 1982). However, biocontrol is not feasible or warranted in Hawaii.

##### Monitoring Requirements:

Production of seed and recruitment from seed should be monitored.

If apparently viable seed are produced, hot water treatment should be used to test germination. This consists of placing seeds in boiling water, removing the heat source, letting seed soak overnight, and then germinating. Recruitment from seed can be evaluated by uprooting young plants to determine if they are connected to long, lateral roots.

##### Monitoring Programs:

Apparently none in Hawaii

#### VI. RESEARCH

##### Management Research Programs:

Waikamoi staff is testing a 50% Garlon 3A solution on cut stumps.

##### Management Research Needs:

An effective cut-surface herbicide is needed. Undiluted Garlon 3A and Roundup should be tested.

If fruiting trees are located in Waikamoi, a quick examination of the soil seed bank for the presence of viable seeds may be useful to management. Blackwood acacia seeds require scarification to germinate (De Zwaan 1978). A soil seed bank may have developed that could be stimulated by disturbance such as fire, resulting in recruitment and spread of this species.

## VII. ADDITIONAL TOPICS

## VIII. INFORMATION SOURCES

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## IX. DOCUMENT PREPARATION & MAINTENANCE

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