

Wildlife Trade Operation - Harvest of various native plant species & native bush worms from Tasmania.

1. Introduction

This application is for the harvest of cut foliage for export of flora from state forest areas and private land in Tasmania and Flinders Island. The harvest operation is being monitored by Forestry Tasmania, and management of native species in Tasmania is carried out by the department of Primary Industries and Water. Legislative power to declare protected plants species is found under the *Nature Conservation Act 2002*. Other relevant legislation includes the *Threatened Species Protection Act 1995*, and the *Forest Practices Act 1985*.

The applicant also harvests native bush worms for sale from a specified licence area contained under DPIPWE licence 250631.

Scientific name	Common name	Harvest portion
<i>Banksia marginata</i> (Proteaceae)	Honeysuckle Banksia	Flowering stems
<i>Gahnia grandis</i> (Cyperaceae)	Cutting grass	Flowering stems (after seed drop)
<i>Gleichenia dicarpa</i> , <i>G. microphylla</i> (Gleicheniaceae)	Coral fern	Unblemished foliage
<i>Lomatia tinctoria</i> (Proteaceae)	Guitar plant	Unblemished foliage
<i>Nothofagus cunninghamii</i> (Fagaceae)	Myrtle Beach	Unblemished foliage
<i>Polystichum proliferum</i> (Aspidiaceae)	Mother shield fern	Unblemished foliage
<i>Xanthorrhoea australis</i> (Xanthorrhoeaceae)	Grass tree	Unblemished foliage
<i>Tasmania lanceolata</i> (Winteraceae)	Pepper bush	Unblemished foliage; Ripe fruit
<i>Tasmanian Native Bush Worm</i>	Scrub Worm	Medium size only

Location of Harvest

All products are to be harvested from “Unrestricted Multiple Use” state forest areas in Tasmania (as defined by Forestry Tasmania), and privately owned land in Tasmania and Flinders Island, under property owner’s consent as and when required. The present location of harvesting is defined as per contract of Sale Agreement with Forestry Tasmania No. .1120 Prids 18707, 18767,18769,187770. **Conditions**

Imposed by the Forestry Tasmania Management Plan on Species to be Harvested

Flora

- Harvesting will not remove more than one third of the leaves and/or branches of each plant.
- Harvesting will be restricted to healthy plants only.
- Harvesting of berries will have minimal disturbance to leaf and branches. The tree must not be removed purely to source berries.

Xanthorrhoea australis

- To avoid harvesting from threatened *Xanthorrhoea* species trunks must be greater than 30cm in height.
- A maximum of 25% of the foliage from any one grasstree plant can be harvested in any one season (i.e. 12 months).
- Foliage should not be re-harvested until the crown has sufficiently regrown, such that the previously harvested area is hidden below the 'skirt' of the plant. The time for this to occur will vary depending on species/location.
- Foliage should be taken from the middle section of the growing mass-avoiding the crown and the lower 'skirt'.
- Harvesting should not occur within the first 24 months following fire or where full recovery of the foliage has not occurred for any other reason.
- Harvest from healthy plants, preferably from areas of higher population density.
- Ensure foliage is marketable prior to harvesting. Foliage that has been cut and then rejected due to poor quality should be discarded into the immediate area.

Nothofagus cunninghamii

- Plant hygiene principals are essential, where branches are to be cut from mature trees wounds must be painted with a suitable fungicide.

***Phytophthora cinnamomi* (PC)**

- Vehicles must remain on formed roads at all times. Where not practical (eg: collection site to far from formed roads) sites may be identified by Forestry Tasmania and approval may be granted for vehicles to leave formed roads.
- Pickers are to move around on foot.
- Try to collect from specimens adjacent or close to formed roads.
- Avoid undisturbed catchments.
- Harvesting tools must be sterilised between all sites.
- Boots are to be cleaned to remove all soil between all sites.
- Minimal area is to be disturbed.
- Plan to conduct operations during periods when soils are likely to be dry. Avoid wet soils as much as possible.
- Avoid harvesting areas containing *X.bracteata* and *X. arenaria*, as delineated on maps. If these species are found in the field, please report the findings to the relevant Forestry District.
- Infected sites are only to be harvested during summer periods. (It is not normal practice to harvest known infected areas).

Fauna

Tasmanian Native Bush Worm

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- Minimal area is to be disturbed.
- Avoid harvesting areas containing *X.bracteata* and *X. arenaria*, as delineated on maps. If these species are found in the field, please report the findings to the relevant Forestry District.
- Infected sites are only to be harvested during summer periods. (It is not normal practice to harvest known infected areas).
- All equipment and clothing are cleaned and checked before moving to a new area.
- Maintain accurate records to be provided to DPIPWE
- Harvest only in areas that are free of Stag Beetles.

Status of species

None of the species in this application are listed as threatened under State legislation. None of the species in this application are listed as threatened under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). None of the species in this application appear in the Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

2. GENERAL GOALS/AIMS

Management of the proposed foliage harvesting operation is intended to provide a sustainable long-term supply of selected plant material to niche overseas markets. Low impact collection techniques are being used for current domestic market supply and will be used for export supply. Additionally, harvest quantities are relatively small, as less than about 5% of the total resource available is of quality suitable for ornamental floral use. Harvest for overseas markets will occur at weekly intervals at most.

3. MANAGEMENT MEASURES

3.1 Harvest area Flora

All products are to be harvested from “Unrestricted Multiple Use” State Forest areas in Tasmania (as defined by Forestry Tasmania) and privately owned land in Tasmania and Flinders Island. The present location of harvesting is defined as per contract of Sale Agreement with Forestry Tasmania No. .1120 Prids 18707,18767,18769,187770.

Most of the harvest area is dry sclerophyll woodland. *Gahnia* and other sedges tend to dominate in areas of poor drainage, particularly where fires have been frequent. *Blechnum*, *Gleichenia* and *Polystichum* are more common in riparian scrub areas and in closed forest areas along with *Nothofagus*, *Banksia*, *Lomatia* and *Xanthorrhoea* tend to occur in areas of open dry sclerophyll woodland, particularly, where burning has been frequent (Kirkpatrick et al. 1980).

3.1.1 Harvest Area Fauna

All products are to be harvested from “Future Potential Production Forest Land” in Tasmania (as defined by DPIPWE). The present location of harvesting is defined PID: 3472660.

Area 3947 ha, in the Pioneer area.

3.2 Land Ownership Flora

The state forest harvest areas are categorised as “Unrestricted Multiple Use State Forests” in harvest areas of State Forest administered by Forestry Tasmania. Permission to harvest material requires a forest licence (authorised by Forestry Tasmania). The licences specify the area to which harvesting is restricted and the amount of material allowed to be taken during the licence period. The licence requires a statement of the amount of material taken and its date of removal. Royalties are paid at the end of each month and are also paid to private landowners where requested.

Harvest is permitted on areas of private land through private agreements with landholders.

3.2.1 Land Ownership Fauna

The state forest harvest areas are categorised as “Future Potential Production Forest Land” in harvest areas of State Forest administered by Crown Land. Permission to harvest material requires a commercial harvesting licence (authorised by Crown Lands Licence Number 250631).

3.3 Harvest Quantities

Scientific Name	Harvest Portion	Maximum Quantity per plant per year	Bunch Size	Maximum Number of units* per Year
<i>Banksia marginata</i> (honeysuckle banksia)	Flowering stems from mature plants	Not more than one third of foliage per plant	5 stems per bunch	30,000 units
<i>Blechnum nudum</i> (fish-bone fern)	Unblemished foliage	Not more than one third of foliage per plant	10 fronds per bunch	30,000 units
<i>Gahnia grandis</i> (cutting grass)	Flowering stems (without seeds)	Not more than one third of foliage per plant	5 stems per bunch	30,000 units

<i>Gleichenia dicarpa</i> (coral fern), <i>G. microphylla</i>	Unblemished foliage	Not more than one third of foliage per plant	10 fronds per bunch	30,000 units
<i>Lomatia tinctoria</i> (guitar plant)	Unblemished foliage	Not more than one third of foliage per plant	10 stems per bunch	30,000 units
<i>Nothofagus cunninghamii</i> (myrtle beech)	Cut branches from mature plants	Not more than one third of foliage per plant	5 stems per bunch	30,000 units
<i>Polystichum proliferum</i> (mother-shield fern)	Unblemished foliage	Not more than one third of foliage per plant	6 fronds per bunch	30,000 units
<i>Tasmania lanceolata</i> (native pepper)	Unblemished foliage; Ripe fruit	Not more than one third of foliage per plant Up to 20% of available fruit per plant	5 stems per bunch	30,000 units (unblemished foliage); 3,000 kilo's ripe fruit
<i>Xanthorrhoea australis</i> (grass tree)	Unblemished foliage	Maximum of 25% of foliage from middle section (avoiding centre of crown and skirt) per plant and from no more that 30% of plants at one site	180 fronds per bunch	70,000 units
<i>Dicksonia antarctica</i> (soft tree fern)	Unblemished foliage	Up to 20% fronds per plant	10 fronds per bunch	30,000 units
<i>Tasmanian Bush Worm</i>	Medium Size	No Maximum	12 worms to a tub	No maximum

*One unit is equivalent to 1 bunch.

The maximum quantity to be harvested is outlined in the above table. The actual quantity harvested will depend on market demand and prices. Material will not be harvested if prices are too low. Flower and foliage markets tend to have fluctuating prices as product supply often exceeds demand due to growth flourishes.

3.4 Method Of Harvesting

3.4.1 Flora

All material is harvested by hand using sterile secateurs. Secateurs are dipped in methylated spirits between plants to minimise risk of transference of disease between plants. Material is selectively harvested as only a small proportion (less than 5%) of the total resource is of a quality suitable for ornamental floral use.

Transport to and from harvest areas is on made roads only. Harvested material is carried by hand from the harvest site to the vehicle parked on the roadside. Boots worn by the harvester are thoroughly cleaned with a scrubbing brush and chlorine or disinfectant solution between visits to harvest areas.

Harvesting operation from domestic markets has to date had no noticeable impact on the habitat. No plants have died or become diseased and in many cases plants have responded with more vigorous growth. It should be noted that all areas permitted for harvest by Forestry Tasmania will eventually be harvested for their timber resource, an activity with significant impact on the environment.

3.4.2 Fauna

Leaf litter is raked clear and electric probes are placed 1 metre apart and an electric charge is passed between the probes encouraging the worms to come to the surface. They are then collected by hand. At the completion of collection leaf litter is raked back over the area.

3.5 Timing and Duration of Harvest Period

3.5.1 Flora

Harvesting will be conducted year-round, but different species will not be harvested at certain times of the year. For example, ferns are not saleable when carrying spores and other species do not have sufficient post-harvest when soft new growth is present.

Market demand will also influence time of harvest during the period when material is available. Cut foliage is easily substituted in the marketplace, so availability in the market of a similar product from another source at a cheaper price may mean harvesting is not an economic proposition at times.

Species	Approximate harvest period
<i>Banksia marginata</i>	September to May
<i>Blechnum nudum</i>	March to October
<i>Gahnia grandis</i>	Year round (selective, one year old flower stalks)
<i>Gleichenia dicarpa</i> , <i>G. Microphylla</i>	Year round (selective)
<i>Lomatia tinctorial</i>	Year round (selective)
<i>Nothofagus cunninghamii</i>	December to August
<i>Polystichum proliferum</i>	Year round (selective, spores not carried on all fronds)
<i>Xanthorrhoea australis</i>	Year round (selective, not new or old foliage), depending on Management Plan conditions for PC.
<i>Dicksonia Antarctica</i>	February to November (selective, no spores)
<i>Drymis lanceolata</i>	February to November

3.5.2 Fauna

The harvesting is conducted throughout the year depending on demand.

4.0 Impact of harvest on the taxa and the relevant ecosystem

4.0.1 Flora

Harvesting for the domestic market has to date not had any noticeable impact on the habitat. No plants have died or become diseased and in many cases have responded with more quality growth. It should be noted that all areas permitted for harvest by

Forestry Tasmania will eventually be harvested for their timber resource, an activity with significant impact on the environment.

In my personal opinion there is no impact on the ecosystem, or the scrub or ferns which are harvested, and in many cases the quality of growth is better. This can be seen by looking at the growth of the plants. Forestry Tasmania officers regularly inspect all state forest areas covered by this application.

4.0.2 Fauna

Areas harvested regenerate within a few months and as we harvest on a medium rotation the harvested areas have been fully repopulated before next harvest.

5.0 MONITORING AND ASSESSMENT

5.1 Resource assessment

A number of population surveys of Tasmanian plants have been conducted for all areas of the State. None of the proposed species for harvest were considered to be threatened or rare. Survey publications are listed in the references in section 9. Forestry Tasmania also conducts regular resource assessments of all state forest areas.

A population survey conducted whilst harvesting foliage for domestic markets has found the following approximate population densities for each of the proposed harvest species.

Species	Approximate population densities
<i>Banksia Marginata</i>	Widespread in heaths and in light forests: 20-40 plants/10m ²
<i>Blechnum nudum</i>	Complete ground cover in wet forest areas, particularly valley floors: 50-70 plants/10m ²
<i>Gahnia grandis</i>	Higher densities in wet forest areas: 1 plant/2m ² Thinning out in drier areas.
<i>Gleichenia dicarpa</i> , <i>G. Microphylla</i>	Dense stands in riparian scrub and gullies, about 50 plants/10m ² . Smaller clumps occasionally in drier area.
<i>Lomatia tinctorial</i>	Plants tend to be in broad bands at up to 30 plants/10m ² . Thinning out to 6m between plants
<i>Nothofagus cunninghamii</i>	Dense stands in wet area, around 8 trees/10m ²
<i>Polystichum proliferum</i>	Full ground cover in wet forest areas, average 50 plants/10m ² . Thinning to 2-3m apart in drier areas.
<i>Xanthorrhoea australis</i>	From 20 to 45 plants/20m ² plants/10m ² plants touching in higher density areas. Generally found in well-drained hillsides.

<i>Dicksonia Antarctica</i>	1 every 15-20m2
<i>Drymis lanceolata</i>	Plants tend to be in broad bands at up to 30 plants/10m2. Thinning out to 6m between plants.
<i>Tasmanian Bush Worms</i>	Animals are found in most area with sufficient moisture and usually in densities of 6 per M2

5.2 Supervision of harvesting

5.2.1 Flora

All state forest harvest areas are controlled by Forestry Tasmania. Removal of plant material requires a Forest Product Licence, and or a Permit to Collect Plants, which is reviewed annually. Any forester or ranger in the area may demand to see the licence of someone removing material from the forest. All harvest quantities and types of material/s are entered into a log book for inspection by District staff, as are payment of royalties. This method has been successful for approximately the past ten years. Additionally, The Department of the Environment requires an annual report with a summary of the harvest program, including volume collected, volume exported and dates and harvest.

5.2.2 Fauna

Under Licence DPIPWE 250631 terms are strictly adhered to including all condition relevant to harvest quantities, areas and reporting.

5.3 Monitoring of harvesting

5.3.1 Flora

Forestry Tasmania employees regularly inspect state forest areas covered by this application. Inspection includes estimation of timber resource and monitoring of the activities of any forest produce harvester in the area. Damage caused by any forest produce licence holder will result in severe reprimand, as we greatly value the forest and vegetation. It is in our best interest to maintain a sustainable product at all costs.

5.3.2 Fauna

Under Licence DPIPWE 250631 terms are strictly adhered to including all condition relevant to harvest quantities, areas and reporting.

5.4 Other Monitoring

Forestry Tasmania commissions surveys of plant populations in some areas as part of the Timber Harvest Planning process, to comply with the *Forest Practices Act 1985*.

The applicant will monitor plant health as part of the harvest process. Broad details of plant decline or loss (if any) will be recorded and reported. Assessment of population

density will be on-going. Monitoring of any particular area will of course cease when or if it is subject to commercial timber-harvesting activity.

6. MANAGEMENT STRATEGIES

If harvesting operations for the selected species or other species in the same habitat cause a noticeable decline in the population density of any of the species then harvesting operations will be reviewed. The response to population decline will be to harvest from another area, reduce harvest quantities, or cease harvesting altogether if necessary.

These responses will be forced by Forestry Tasmania as part of the forest monitoring, regardless of the desires of the applicant.

If harvesting operations result in an increase in the population density of the selected species then increased harvesting is not likely as market demand for extra product is not likely. If an increase in population density or particular species were sufficient to threaten other species then response would be as for a noticeable decline in species.

7. COMPLIANCE

Tasmanian Native Flora and Fillers under the Forestry Tasmania Management Plan complies with the following statutes

- Historical Cultural Heritage Act 1995 which covers Heritage listed sites.
- Environmental Management and Pollution Control Act 1994 which covers environmental harm and pollution in the areas where harvesting will occur.
- Forestry Act 1920 which covers all activities on State Forest.
- RFA, Permanent Native Forest Estate.

Tasmanian Native Flora and Fillers also complies with the following Policies

- Reserve objectives under the Forest Reserve Register
- Property Rights
- Rainforest Policy
- Landscape Management Policy
- Forest Management Plan (Sustainability Charter).

Forestry Tasmania has supplied the maps and necessary information and training to ensure the above compliance and will update that information as necessary.

Tasmanian Native Flora and Fillers under licence agreement 250631 with DPIPWE complies with the following conditions:

Return ground cover to as close as possible to preharvest condition.

Keep records pertaining to harvest quantities, location, stock assessment and fauna condition.

Tasmanian Native Flora and Fillers also complies with the following Policies

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- Property Rights

- Rainforest Policy
- Landscape Management Policy
- Forest Management Plan (Sustainability Charter).

8. REPORTS

Annual reports will be provided to the Department of the Environment with details of material harvested for export, results of population density monitoring and any other relevant details.

9. BACKGROUND INFORMATION

Native cut foliage has been widely used by florists for decades. However, the variability in quality associated with wild picked material has tended to limit demand, especially where plantation-grown foliage is available. A similar limited demand exists overseas, which has niche markets for selectively harvested material.

Native bush worms are sort after by recreational fishers and landscape gardeners throughout Australia for their hardiness and deep ground penetration.

9. REFERENCES

Environment Protection and Biodiversity Conservation Act 1999 - Species Profile and Threats Database, <http://www.environment.gov.au/awd/sprat/index.html>

Rare or threatened Australian Plants. J.D. Briggs and J.H. Leigh. Australian National Parks and Wildlife Service Special Publication 14, 1988.

Reservation and conservation status of Tasmania native higher plants. J.B. Kirkpatrick, L. Gilfegger, J. Hickic and S. Harris, Department of Parks, Wildlife and Heritage, Tasmania. Wildlife Division Scientific Report No. 9 112, 199 1. ISBN 0-7246-3 840-7.

The conservation of flora in Tasmania. (The status of plant species, which are primitive, endemic or have geographical significance.) M.J. Brown, D.D. Hoggins and H.J. Bayly-Stark. National Parks and Wildlife Service, Tasmania. Wildlife Division Technical Report 7714, 1977.

Threatened plants of Tasmanian Central Cast Coast. J.B. Kirkpatrick, M.I. Brown and A. Moscal. Tasmanian Conservation trust, 1980. ISBN 0-9599816-7-5.