

FOREST MANAGEMENT PLAN





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Glossary

AFS – Australian Forestry Standard AS 4708:2013

Clearance/Certificate of Completion – document provided at the end of an operation

COFPTP – Code of Forest Practice for Timber Production, Victoria

DELWP – Department of Environment, Land, Water and Planning, Victoria

DFA – Defined Forest Area

DPI – Department of Primary Industries NSW

DPIPWE – Department of Primary Industry, Parks, Water and Environment, Tasmania

EPA – Environment Protection Authority NSW

FCNSW – Forestry Corporation of New South Wales

FMU – Forest Management Units

FPA – Forest Practices Authority Tasmania

FPC – Forest Practices Code, Tasmania

FPO – Forest Practices Officer, Planning

Lucidity – a suite of software tools designed to manage business processes. Modules include incident management, HR, Contractor management, competency, electronic form creation and records management, asset management, risk management

NPWS – National Parks and Wildlife Service NSW

Operational Plan – includes Forest Practices Plan (FPP), Harvest Plan, or any other plan developed for a particular operation

PEFC – The Program for Endorsement of Forest Certification

Pentarch – Pentarch Forest Products, Pentarch Forestry, Pentarch Forestry Services, Pentarch Logistics are all part of the Pentarch group of companies

PRA Code – Plantations and Re-forestation Code, NSW

PNF Code – Private Native Forests Code, for Southern NSW

RW – Responsible Wood manage the Responsible Wood Certification Scheme which is underpinned by two Australian Standards® – Sustainable Forest Management (AS 4708) and Chain of Custody for Forest Products (AS 4707).

SMS – Safety management system, includes references to Work Health and Safety (WHS) in NSW and Tasmania and Occupational Health and Safety (OHS) in Victoria

VF – VicForests

Background

The core business of Pentarch Forestry Pty Ltd (Pentarch) is the management, harvesting and sales of forests and forest products to domestic and export markets. The Company currently manages over 8000 ha of land with the majority of this being planted to hardwood plantations. Approximately 30% of the defined forest area is native forest that is managed for production, water, biodiversity and conservation values.

As a major supplier of forest products, it is important for Pentarch to demonstrate to stakeholders and customers that the products that it supplies originate from forests that have been certified to an internationally recognised certification standard. The Pentarch Defined Forest Area (DFA) is certified under Australian Forestry Standard AS 4708:2013 (AFS) which recognised by the international body, the Program for Endorsement of Forest Certification (PEFC).

Pentarch undergoes regular independent surveillance audits to monitor compliance with the standard. Continual compliance and improvement to forest management has been achieved using AS4708.

As a result of meeting the AFS standard, the management of plantation and native forest operations in NSW, Victoria and Tasmania is conducted in an economically, socially and environmentally sustainable manner.

In addition to managing environmental, cultural and safety aspects of its forest operations, Pentarch actively supports the community in which it operates by providing employment and buying locally where possible.

Scope

This Forest Management Plan intends to specify the economic, social, environmental and cultural criteria and requirements for wood production that support continual improvement in sustainable forest management.

Pentarch undertakes best practice management through a systematic approach to planning and management of operations, which is supported by the framework provided by the AFS.

Pentarch provides a full forest management service covered by this Forest Management Plan within the Defined Forest Area (DFA) in NSW, Victoria and Tasmania.

The Plan prescribes how the DFA forests will be managed at a strategic level, optimising economic outcomes and mitigating risk factors. Pentarch undertakes further planning at an operational level for more site specific and immediate issues.

0. General Requirements

0.1. Defined Forest Area (DFA)

Pentarch is a certified forest manager and properties are added to the DFA once they are assessed as suitable and contractual agreements have been established with the landowner giving Pentarch legal management control. Pentarch intends to expand its DFA as a preferred forest manager providing globally recognised certification and access to domestic and export markets.

As a result, the size and location of Pentarch's DFA is quite dynamic. There is currently just over 8100 ha of land within the East Gippsland Shire in Victoria, the Snowy-Monaro and Bega Valley Shires in southern NSW and throughout north western Tasmania that is under Pentarch's management control. Much of this estate's prior land use was for agricultural use such as mixed sheep and cattle grazing.

The main land use within Pentarch's catchment area, particularly on the mainland, is public land managed by the relevant state government land agencies (over 80%). While forestry plays a key role within both the mainland and Tasmanian regions, agriculture and tourism are also important industries.

Pentarch's DFA is described by four Forest Management Units (FMU), one in Tasmania and three in mainland Australia.

These are described as:

- Mainland - Hardwood plantations (61%)
- Mainland - Native forest (26%)
- Mainland - Softwood plantations (9%)
- Tasmania - Hardwood plantations (5%)

It is broken up by state as follows:

| State | Area (ha) |
|--------------|-------------|
| Victoria | 5158 (63%) |
| NSW | 2627 (32%) |
| Tasmania | 393 (5%) |
| Total | 8178 |

Maps are provided on the Pentarch web site at a scale of 1:250,000. Pentarch's DFA can be located by clicking on the following link: <http://www.pentarch.com.au/accreditations.html>

Most of the land under Pentarch's control is plantation forest that is managed for pulpwood production. The associated native forest is managed for limited timber production, biodiversity and conservation values.

Related Documents:

DFA Register Maintenance Procedure

Overall DFA Register

Maps of DFA (Pentarch Intranet and Website)

0.2. Chain of Custody

Pentarch forest management certification provides for chain of custody from the certified forest estate to the mill door. Product from the forest is identified as certified with accompanying documentation that includes its origin from within the DFA, Pentarch's forest management certificate number and the claim 100% AFS/PEFC certified. The monthly sales invoice will contain all required certification information including a link to www.pentarch.com.au to locate a copy of the current forest management certificate.

The chain of custody standard provides a secure system with a defined chain of responsibility. Pentarch's chain of custody demonstrates the origin of certified material and provides the certification claims that can be passed on to the market.

Log dockets are checked by contractors prior to leaving the landing to ensure that they have the correct certification information on them. It is the truck driver's responsibility to make sure that log loading and securing is undertaken to comply with the National Transport Guidelines and Pentarch log loading and transport requirements providing safe loads to their destination. Cartage routes are specified by Pentarch and advised to the contractor. Load limits must be observed.

Related Documents:

Chain of Custody Policy

Pentarch Forestry Chain of Custody Systems Manual

Heavy Vehicle Mass Management Procedure

Code of Behaviour for Log Truck Drivers

Log Loading and Transport Procedure

1. Systematic Management

1.1. Policy

Pentarch has a Sustainable Forest Management Policy that describes the Company's commitment to safety and the environment, sustainable forest management, stakeholder engagement, compliance with regulatory requirements, provision of resources as well as providing a framework for setting objectives and targets.

A copy of the policy can be found on the Pentarch Forestry (Australia) website and it is also located within the foyer/reception area of each Pentarch office.

1.2. Forest Management Plan

This Forest Management Plan is the blueprint for achieving the principles of ecologically sustainable forest management. The plan sets out the broad strategies for forest management within Pentarch's DFA for the next five years.

This plan covers the management of forests within Pentarch's DFA and aims to fulfil the requirements of the AFS.

1.2.1. Legislative Requirements

The main legislation applicable to Pentarch's forestry operations within the DFA are:

- NSW Plantations and Reafforestation Act 1999 (PR Act)
- NSW Land Services Act 2013 and associated amendment (LLS Act)
- NSW Biodiversity Conservation Act 2016 (BC Act)
- Victorian Planning and Environment Act 1987 (PE Act)
- Tasmanian Forest Practices Act 1985 (TFP Act)

The relationship of these Acts with Pentarch forest operations is explained within the Pentarch Legal Requirements Management Procedure.

Pentarch's plantation and native forest management systems are conducted in accordance with four main codes:

- NSW Plantation and Reafforestation Code (PRA Code)
- NSW Private Native Forestry Code of Practice for Southern NSW 2007 (PNF Code)
- Victorian Code of Practice for Timber Production 2014 (COFPTP)
- Tasmanian Forest Practices Code 2015 (FPC)

Other legislation relevant to operations is listed within the Pentarch Legal Register and is managed by the Certification Manager. A procedure for tracking relevant new legislation or amendments to existing legislation is in place and Pentarch subscribes to online newsletters providing regular updates for all states.

The Pentarch Forestry CEO is the executive officer responsible for compliance with legal obligations of the Company and related policies.

Related Documents:

Legal and Other Requirements Management Procedure

Legal Register – Commonwealth

Legal Register – NSW

Legal Register – Victoria

Legal Register – Tasmania

1.2.2. Objectives and Targets

Pentarch's primary objective is to manage a sustainable and profitable forestry business. Pentarch sustainably manages forests to produce quality timber products for the export market, recognises the obligations to protect significant environmental values, while also being aware of community expectations and needs.

Measures put in place to achieve these objectives are guided by Pentarch's policy and management system framework and include its Sustainable Forest Management Policy, the Forest Management Plan and Good Neighbour Management Procedure.

The Pentarch Forestry Management Team has developed a document providing information about the strategic direction the company is aiming to achieve. This Strategy for 2019 – 2023 is summarised in the following graphic:



As part of this, a key objective is to maintain environmental, heritage and social values across the defined forest area managed by Pentarch.

The following table indicates the current aims:

| Aim | Responsibility | Monitored by | How it is reported |
|---|-----------------------|----------------------------------|---------------------------------|
| Providing a safe, healthy and productive workforce | All | Pentarch Group WHSE Committee | Monthly meeting minutes |
| Maintaining certification under AFS/PEFC | Certification Manager | Certification Steering Committee | Quarterly meeting minutes |
| Maintaining productive capacity of the DFA | Forestry Manager | Regular plantation inspections | Annual Inventory Report |
| Contributing to forest health through weed and pest management programs | Plantation Forester | Regular plantation inspections | Plantation inspection checklist |



| Aim | Responsibility | Monitored by | How it is reported |
|--|--|--|--|
| Taking into consideration flora and fauna values and cultural values when planning activities within the DFA | Plantation Forester | Internal audits | Planning process review and audit reports |
| Minimising the effect of pollution from the road network and associated infrastructure | Plantation Forester | Regular harvesting operation inspections | Lucidity audit and incident forms – harvest inspection checklist |
| Contributing to the carbon cycle | Forestry Manager | Carbon calculator | Using inventory data to determine quantum of stored carbon |
| Providing economic and social benefits to the community | All | Forestry Management Team | Pentarch Forestry Strategy review |
| Engaging stakeholders | Forestry Manager Plantation Forester Certification Manager | Number of comments received on website | Annual review |

Related Documents:

Pentarch Forestry Division – Business Strategy
Sustainable Forest Management Policy
Good Neighbour Procedure

1.3. Management Plan Implementation

The management system is supported by documentation including the sustainable forest management policy, the forest management plan and a suite of associated documentation including procedures and work instructions. These are all available via the Pentarch Forestry Intranet portal.

Other supporting information to help in the maintenance of the management system includes (but is not limited to) Pentarch Group documents that relate to document control, records management, position descriptions, contractor management and emergency preparedness. These are functions managed at head office however they are also able to be done at the site level at either Eden, NSW or Burnie, Tasmania.

Staff and contractor competencies are managed through the Lucidity Software Program. Refer to section 9.4 of this document for further information.

Pentarch has also established a Certification Steering Committee (CSC) to guide further refinements in system documentation and procedures, consistent with the Company's commitment to continual improvement.

Related Documents:

Pentarch Group Document Control Management Procedure
Pentarch Group Contractor Management Procedure
Pentarch Forest Management Committee – Charter and Procedural Rules
Provision of Wood Manual
Pentarch Emergency Preparedness Procedure

1.3.1. Planning and Assessment

All forest areas that have been managed for production undergo assessment to ensure that operations will not significantly impact upon important values within or associated with the planned area.

This assessment may lead to these areas being excluded from development to address any issues that may have been identified. These values include the presence of significant flora and fauna communities, cultural heritage features, visual management, soil and water buffers, safety and the impact on the local community.

In most cases these issues are addressed by the relevant regulatory authority including the Department of Primary Industry (DPI) NSW, the Environmental Protection Authority (EPA) NSW, the East Gippsland Shire Council (with the Department of Environment, Land, Water and Planning (DELWP) as the referral authority) Victoria and the Forest Practices Authority (FPA) Tasmania.

Operational plans form the basis for management of operations on the Pentarch DFA. They contain the required detail to plan and carry out the nominated tasks and to review and audit outcomes.

These files and plans describe operations including, but not limited to, site preparation, planting, pesticide control, weed control, roading and timber harvesting. The operations must meet the requirements of the respective Code of Practice in each State.

Flowcharts describing the process that Pentarch follows for the planning of plantation and harvesting operations in NSW, Victoria and Tasmania are attached to this document (see Appendices 1, 2, 3 and 4). There is also a flowchart within the Pentarch Plantation Establishment Plan that indicates the process and control documents involved for each step of site establishment.

Approvals from the appropriate state or local government agencies (depending on whether the land is in NSW, Victoria or Tasmania) need to be obtained before commencement of any operations. In Tasmania, if a Private Timber Reserve exists over the title, a right to maintain commercial forestry, local government planning approval is not required. The appropriate authorities are advised prior to harvesting.

Harvesting will be scheduled according to production requirements, seasonal constraints and contractor availability.

Related Documents:

Plantation Establishment Plan
Forest Operations Planning Procedure
Stakeholder Engagement Plan
Tasmanian Provision of Wood Manual

1.3.2. Operational Plans

It is a requirement of State legislation that operational plans be prepared for all road construction, harvesting, plantation establishment, associated infra-structure, fire management and for any other forestry related operations that may occur. These plans specify what significant values occur within the planning area and the prescriptions that will be applied to protect them.

These plans are prepared by Pentarch staff under the guidance of the codes applicable to the operation and are approved by the relevant authority. In Tasmania, a warranted Forest Practices Officer Planning (FPO) must certify the plan. The plans prescribe silvicultural and harvesting procedures using the Victorian COFPTP, the NSW PRA Code and/or PNF Code or the Tasmanian FPC where relevant.

Operational plans are prepared when plantations (and any native forest within the estate that may be harvested), are due for harvest. These plans will identify the area to be harvested, the harvesting systems to be used, roading issues, any areas that need to be reserved, protection of soil and water resources, flora and fauna constraints (if applicable), visual amenity impacts and heritage values, where necessary.

The environmental impacts of all forest operations (including roading, harvesting and post-logging burns) will be considered before operations commence and any special conditions will be included in the harvest plan.

The type of information that is contained in any operational plan includes, but is not limited to:

- Location and land ownership;
- Period of planned operations;
- Type of harvesting system used (including wet weather areas, locations of landings, extraction pattern if applicable);
- Basic features of the area including forest type, topography, drainage lines, existing access, boundaries etc. These are shown on a map of the specific area as well as described in the plan;
- Management requirements or prescriptions that account for special values including; soil and water values, geomorphology, flora and fauna, cultural heritage and visual values;
- Other conditions as required (e.g. repairs to fencing);
- Fire protection requirements;
- How boundaries are delineated in the field (i.e. tree marking code);
- Safety and emergency procedures; and
- Sign-off of harvest plan and at completion of operation.

Boundaries are marked in the field to ensure that the harvest area is clearly delineated. Operational areas are mapped and the information is maintained on the geographic information system.

Related Documents:

Plantation Establishment Plan
Forest Operations Planning Procedure
Tasmanian Provision of Wood Manual
Operational Plans
Forest Practices Plans

1.3.3. Harvesting and Haulage Operations

Harvesting and associated haulage of the wood is conducted to maximise utilisation from the forest area using the most cost effective and appropriate methods.

Harvesting is conducted with contractors who have been trained to the required competency standards of safety and environmental care and/or forest practices and can follow the instructions provided as part of the operational plan. The contractor must comply with the relevant codes and guidelines and is required to meet all environmental standards set out in this management plan.

The contractor ensures that all operators are assessed as competent to the relevant training standards that apply locally and nationally. This ensures that prescriptions under the relevant codes of practice are adhered to.

Haulage operations must be safe and adhere to all environmental standards. Vehicles must comply with prescribed load limits and be operated in a manner and at speeds that have regard for the safety of other road users. All loads must be safely and securely fastened and comply with load restraint guidelines.

The maintenance of roads (particularly local council roads) used for timber haulage is an important issue that is addressed in the planning process.

The Victorian approvals process requires prior inspection of roads that will be used during operations. Permit conditions require roads to be maintained to their pre-operation condition.

Related Documents:

Pentarch Group Contractor Management Procedure
Contractor WHSE Self-assessment Form
Minimum Safety Management System Standards
Heavy Vehicle Mass Management Procedure
Code of Behaviour for Log Truck Drivers
Log Loading and Transport Procedure

1.4. Monitoring and Corrective Actions

Pentarch has various processes in place to identify areas and causes of non-conformance or deficiency in the system and implement actions to prevent any non-conformance identified being repeated. This includes:

- Monitoring contractor operations through regular checks and reporting outcome on checklists.
- Conducting internal audits on operational requirements.
- Having systems audited by an external body to ensure maintenance of the standard.

Regular reporting by Regional Managers to the Pentarch Group WHS and E Committee and Certification Steering Committee provides management the opportunity to review any incidents and identify opportunities to improve performance.

Records are maintained within the Lucidity software program including incident reports, meeting notes, results of audits (internal and external), any non-conformances raised, who and when it is to be actioned by and details of corrective actions undertaken.

1.4.1. Monitoring Contractor Operations

Pentarch Supervisors conduct regular harvesting inspections assessing operational, safety and environmental aspects and ensure that the operations comply with the requirements of the plan. These inspections are recorded electronically through the relevant forms within the Lucidity software program. The information collected identifies any non-conformances, corrective actions, responsibility for actions and forms part of the Pentarch reporting system

Once harvesting has been completed, the area is rehabilitated to the appropriate standards. This includes, but is not limited to, having in place correct drainage of access roads and other erosion control measures as per the operational plan. If any firebreaks are present in the area, the condition of these are assessed and any maintenance work will be carried out to ensure they are trafficable.

A clearance is produced once the Pentarch supervisor is satisfied that the operation has been completed and meets the requirements of all relevant parties.

Pentarch Contractors are required to have a safety management system in place. These safety management systems are regularly audited for compliance by Pentarch Supervisors and includes:

- Observation of safe work procedures,
- Presence of first aid procedures and equipment,
- Emergency evacuation procedures,
- Use of correct personal protective equipment (PPE),
- Have relevant competencies and/or appropriate licences,
- Risk assessment procedures; and
- Accident reporting system.

Related Documents:

Harvesting Inspection Report Form (Lucidity inform)
WHS Audit Record (Lucidity inform)

1.4.2. Internal Audits

Periodic audits of the forest management system are conducted to ensure that it conforms to the requirements of plans developed, is correctly implemented and complies with AS4708.

Internal audits are conducted to cover the key activities within the Pentarch DFA as part of the overall Pentarch Forestry schedule.

Related Documents:

Pentarch Group Internal Audit Procedure
Forestry Internal Audit Schedule (Office 365 Planner)
Internal Audit Report Template

1.4.3. External Audits

Compliance with forest and management system certification is audited by an accredited, independent, third-party certification body to ensure compliance, continuous improvement and transparency.

A summary of the most recent SFM external audit conducted can be found on the Pentarch website.

Related Document:

Forest Certification External Audit Schedule (Office 365 Planner)

1.5. Review

Issues regarding the effectiveness of the system and continual improvement are addressed at the CSC meetings. Systems are reviewed for effectiveness and measures taken to implement change and ensure continual improvement in performance outcomes is achieved.

The agenda covers the policy and forest management plan review, results/outcomes from internal audits conducted, corrective actions, review of compliance audits, any relevant research findings applicable to Pentarch's operations and the adequacy of monitoring. Interactions with other agencies and stakeholder engagement is reported and reviewed.

Pentarch's adherence to the management guidelines presented in this plan will be subject to review in accordance with its commitment to achieve and maintain forest management certification under the AFS.

Minutes of these meeting are kept and action items are recorded within the Lucidity program.

Related Document:

CSC and Forest Management Committee Charter and Procedural Rules

1.6. Research and Development

Pentarch continues to base forest management decisions on available research, expert consultant advice, available ecological information and practical experience.

Pentarch maintains interest in research to ensure the best eucalypt plantation species or pine genetics are selected for local conditions. Research programs also help identify appropriate site preparation and weed control strategies for the various soil types encountered. Low impact establishment for second rotation operations have been investigated and trialled in NSW and are operational in Tasmania.

An increase in foraging activity of long-nosed bandicoots following some fuel reduction burning has been observed in mainland plantations. Advice received from a forest ecologist is that the underground fungi favoured by the bandicoots appear to be stimulated by fuel reduction burns.

Infra-red cameras are used within the plantation estate in areas where there may be potentially threatened species. Photos collated as a result of the use of these cameras helps to identify and determine the number and diversity of species using the area.

Pentarch pays the Forest and Wood Products Association and the Forest Growers Association levies, which are used to fund a range of research, development and promotional programs to support the forest industries. Pentarch utilises research notes and guidelines provided by FPA Tasmania that help manage activities within an operational area.

Management of wood residue, alternative uses to the fumigant methyl bromide, the use of drones for stock control and inventory measurement, and the updating of process control and data acquisition systems to enhance the monitoring and management of mills are some of the many projects that are currently being developed by Pentarch staff.

Pentarch has a dedicated Project Manager who co-ordinates the project portfolio. Each project has a Project Sponsor and a Project Manager who are responsible for the implementation of their project once it is approved by the Board of Directors.

2. Stakeholders

Pentarch is committed to meaningful stakeholder consultation with its customers, landowners, neighbours, local governments, key state government departments, general interest groups and the community generally.

PFS (NSW) is a Forest Industry Brigade (FIB) in the Country Fire Authority (CFA) as required by the Victorian Country Fire Authority Act (1958), section 23AA. The PFS FIB has also provided help to the CFA and NSW Rural Fire Service when required.

The Southeast Truck Safety Committee was re-formed in 2005 and has membership across both NSW and Victoria. Members include harvest and haulage contractors; State Government agencies (i.e. Forests NSW, VicForests); regulators such as NSW Roads and Maritime Services (RMS), Worksafe NSW and VicRoads; wood processors such as Pentarch and local councils, including Snowy-Monaro and Bega Valley Shires.

The Certification Manager is currently a member of AFPA forest certification sub-committee.

2.1. Identification of Stakeholders

A list of stakeholders is provided in the Pentarch stakeholder engagement plan. These are categorised into affected and interested stakeholders.

2.2. Stakeholder Engagement Plan

A formal Stakeholder Engagement Plan has been developed that provides greater detail on how Pentarch engages with its identified stakeholders.

The Stakeholder Engagement Plan recognises the need for effective consultation with affected and interested stakeholders. This plan aids in maintaining and developing the positive relationships the Company representatives have forged with the community and the Company's social licence to operate.

Pentarch acknowledges the positive contribution that stakeholder perspectives and expertise make to forest management. Pentarch values good relationships within local communities. It seeks to have a better understanding about neighbour and community issues with respect to its forest management activities in the context of a DFA owned by individual landowners recognising private property rights and privacy law. It is recognised that consultation is a two-way process of dialogue between the organisation and stakeholders.

Pentarch has developed a dispute resolution process to deal with disputes quickly, transparently and in a common-sense way. A dispute resolution process has been developed for resolving difficult disputes.

Pentarch attempts to resolve all disputes by face to face negotiation in a respectful manner. All communication is documented.

Related Documents:

Stakeholder Engagement Plan

Dispute Resolution Procedure

2.3. Stakeholder Participation

Through Pentarch's Good Neighbour Guidelines, the Company encourages parties affected by forest operations to raise issues with local staff in the first instance and attempt to resolve any disagreements at the local level.

Stakeholders have an opportunity to make comment on reviews of the forest management plan. Directly affected stakeholders are sent information and provided an opportunity to comment on operations. Otherwise, opportunities for stakeholder input can also occur via the Pentarch Forestry website.

Related Document:

Good Neighbour Guidelines

2.4. Affected Stakeholders

Pentarch strives to maintain relationships with stakeholders that may be affected by its operations through consideration of the impacts of the operations during the planning process and providing timely information.

Actions are taken to minimise any potential adverse impacts particularly on neighbours as they are the most likely to be affected. Notification to the appropriate regulatory authorities, where required, is also done prior to an operation occurring.

Communication regarding long term benefits of sustainable forest management is done through the forest management plan which is available on the Pentarch website or by request.

Related Document:

Stakeholder Engagement Plan

2.5. Records

Records of communication with stakeholders are kept in the relevant files for each property.

The Company now has in place an incident reporting system (Lucidity) which has the capability to keep a record of all relevant communications with stakeholders. This will include any enquiries that come through the Pentarch website.

Related Documents:

Web Enquiry Procedure

Lucidity Software Program

Neighbour notification form

Dispute Resolution Procedure

2.6. Public Disclosures

Pentarch provides a first contact public face through its web site www.pentarch.com.au where it posts downloadable information including the Forest Management Certificate, the most recent external audit report summary, the Forest Management Plan and maps of the DFA.

3. Biodiversity

3.1. Biodiversity Priorities

The Pentarch DFA is geographically dispersed and is constantly changing so priorities are established based on current published and available science. These priorities are reviewed every 5 years unless significant information that may impact the DFA becomes available before this period expires.

Australian mammals have suffered an exceptionally high rate of decline and extinction over the last two hundred years. Ground dwelling mammals in the critical weight range (CWR) of between 35g and 5.5Kg have declined most amongst the ground mammal population (reference). Local CWR species include the Southern Brown (SBB) and Long-nosed Bandicoots (LNB) and the Long-footed (LFP) and Long-nosed Potoroos (LNP). Monitoring for and protecting CWR mammals has been a conservation priority for Pentarch Forestry since 2011 (*P Rutherford pers comm*).

The maintenance of hollow dependent species habitat is primarily done by maintaining native forest within riparian zones and protecting these areas from operational and wildfire impacts. Braithwaite, L.W. (1983) found that within the dry sclerophyll forests of the Eden area, 60% of arboreal mammals were found in only 9% of the forest. The area favoured by arboreal mammals is concentrated in the riparian zones.

These priorities, among other things, will support some of the objectives contained in the South Coast (NSW) Regional Conservation Plan December 2010 (Dept of Environment, Climate Change and Water).

One of the plantations that Pentarch manages within its DFA contains a threatened flora species called the Australian Anchor Plant (*Discaria pubescens*). This has a management plan in place that describes mitigation measures to help manage the species within the DFA. A second population of four plants was recently located on a nearby property.

Due to the nature of the estate in Tasmania, i.e. primarily plantation timber, any native forest that may be present on the estate is normally preserved through streamside buffers and any other prescriptions as identified by the forest practices planning process.

Related Documents:

Threatened Flora Management Plan - Australian Anchor Plant

Long-footed Potoroo Management Plan

Forest Practices Authority (Tasmania) Fact sheets

Braithwaite, L. W. (1983). Studies of the arboreal marsupial fauna of the Eden Woodpulp Concession Area of New South Wales. I. The species and distribution of animals. Australian Wildlife Research 10, 21 9-29.

3.2. Maintenance/Enhancement of Biodiversity Values

The maintenance of a mosaic of different habitat types (with a range of disturbance levels) contributes to biodiversity. As part of this mosaic, it is important to connect areas of relatively undisturbed habitat to facilitate movement of fauna through the landscape. To achieve this, corridor exclusion areas are considered when establishing plantations to create a network of relatively undisturbed habitat. Buffer strips form a vital part of this corridor network.

Any threatening impact on biodiversity processes identified throughout the estate will be considered and management strategies will be determined to mitigate any effects that operations might have on biodiversity values.

Pentarch conducts baiting programs within the DFA to reduce the effect of feral animals on CWR animals, birds and reptiles. This is done in consultation with other land managers to co-ordinate locations and make the most of the resources available.

Related Documents:

Plantation establishment Plan
1080 Use for Pest Animal Control

3.3. Significant Biodiversity Value Identification

Pentarch identifies significant biological diversity values during operations planning. Information and databases produced by the Tasmanian Forest Practices Authority (FPA) and other Government authorities (i.e. EPA NSW, DELWP Victoria) are used to identify biological diversity values throughout the DFA. Relevant biodiversity databases are searched during the planning stages of all operational plans.

In the first instance, existing databases such as the NSW Bionet database and the Threatened Species list under the Flora and Fauna Guarantee Act 1988 (FFG Act) in Victoria are consulted. In Tasmania, a number of databases are available and are referenced by Forest Practices Officers (Planning).

Local FCNSW and DELWP Victoria staff as well as external consultants may also be used to determine the likely presence of endangered, vulnerable and rare species on operational areas before commencement of operations.

Other critical habitat and structural elements such as habitat trees, rocky outcrops, caves and wetlands are identified at the planning stage and prescriptions put in place as per the relevant State Code of Practice.

Depending on the requirements, flora and fauna assessments may be undertaken prior to the commencement of forest operations.

Some areas within forest stands have unique habitat values for a range of species, including threatened species. Threatened species management is subject to external criteria. In Tasmania, the Forest Practices Authority has developed expert systems in cooperation with DPIPWE. Other areas with unique habitat value (for both terrestrial and aquatic species) include wetlands and heath, which are excluded from operations under the relevant codes.

Infra-red cameras are utilised within the mainland plantation forest management unit (FMU) to determine the presence of threatened species such as the Southern Brown Bandicoot and Long-footed Potoroo. They are also used to identify whether other species are present within these areas to help develop an overall species database for the estate.

Mapping of forest types, or any areas identified as biologically significant is also done within the Pentarch (Geographic Information System (GIS) program.

Significant biodiversity value identification is a vital step in the planning process in NSW and Victoria (refer to relevant steps in Appendices 1,2, and 3).

Related Documents:

Identification of Threatened Flora and Fauna Procedure.
FPA Tasmania process for biodiversity special values assessment and planning.

3.4. Maintenance of Significant Biodiversity Values

To ensure biodiversity protection occurs in native forests subject to harvesting operations, Pentarch complies with requirements specified in the Victorian COFPTP, the NSW PNF Code and the Tasmanian FPC. If any endangered, vulnerable or rare species are identified as part of the planning process, appropriate prescriptions are put in place as per the relevant codes.

The majority of native forest within the Pentarch mainland FMU are considered to have low habitat value. Often high habitat value forest occurs within drainage features that are protected through the buffer strip and wildlife corridor system.

In Tasmania, there are provisions in the code for the management of threatened aquatic and amphibian fauna. For example, all burrowing crayfish, giant freshwater crayfish, green and golden bell frog, all hydrobid snails and a number of freshwater fish.

3.5. Monitoring Biodiversity

Biodiversity priorities identified through the planning process are monitored at the coupe level within the DFA.

Monitoring is undertaken by Pentarch highly experienced forest supervisors. Awareness training of Pentarch staff and contractors is ongoing and updated whenever changes to threatened species requirements are made.

Specific objectives for CWR mammals, and in particular, the Long-footed Potoroo, are to:

- protect known populations on Sapphire Forests properties from identified threats such as predation pressure and harm from wildfires;
- maintain or expand the existing populations by actively controlling predators; and
- if lawful and practical, manage wildfire risk by implementing appropriate ecological burning strategies.

This will be achieved by:

- using Infra-red cameras to verify the continuing existence of threatened and other species including birds and arboreal mammals.
- Monitoring will continue and programs will be implemented to protect threatened and other fauna species.
- The effectiveness of predator control programs will be determined by increased evidence of foraging animals across larger areas of the DFA. This will be noted by observations when inspecting the estate over time.

Monitoring since 2011 has identified previously unknown populations of Long Nosed Bandicoots (LNB) on properties including the ANWE mill site and Baelcoola in NSW and Lower Bendoc and Murrungowar in Victoria.

As the Tasmanian component only consists of 5% of the total Pentarch DFA, the Forest Practices Authority's priorities regarding monitoring biodiversity values are followed as part of the FPP process. Biodiversity values are restricted to the plantation management areas under the FPP.

The FPA (Tasmania) issue a regular report that monitors the effectiveness of the biodiversity provisions that are put in place as part the FPC. The latest report was published in August 2017.

Related Documents:

Threatened Flora Management Plan - Australian Anchor Plant

Long-footed Potoroo Management Plan

FPA (2017) Monitoring the effectiveness of the biodiversity provisions of the Tasmanian Forest Practices Code. 2016-17 Summary Report.

3.6. Review of Biodiversity Vales

Pentarch actively searches available current databases in the development of operational plans. This ensures that the information being sought is up to date.

Other areas where information is obtained includes FPA newsletters and notices, lawlex alerts for threatened species and ongoing training.

The biodiversity priorities discussed in section 3.1 are periodically reviewed and if required, these may be re-assessed depending upon the outcome of monitoring results and/or new research findings.

3.7. Native Forest Regeneration

Most of the native forest that occurs within the DFA estate in NSW, Victoria and Tasmania is described as dry sclerophyll. Eucalypts in the southern NSW and East Gippsland regions generally produce large quantities of seed on a regular basis and regeneration is encouraged through natural means.

As such, native vegetation will occur with species and provenances native to the area. This maintains local gene pool and species mix.

3.8. Introduced Genetics

The majority of the softwood plantations that Pentarch manages or are likely to manage are predominantly *Pinus radiata*. There is no known risk of gene mixing with the native population. The spread of wildlings is the greatest risk. This is monitored by Pentarch staff during their normal activities and treatment is undertaken where necessary.

Harvesting equipment has been used to remove pine wildlings resulting from a 1983 wildfire, that dispersed seed over a wide area of native forest, from the DFA at Baelcoola in NSW. Similar equipment has also been used to remove redundant softwood plantings and wildlings from various crown land tenures.

Hardwood plantation species hybridisation is the subject of ongoing research. Species susceptible to hybridisation must be considered in planning preparation. Guidelines have been developed by the FPA (Tasmania) to manage hybridisation between *Eucalyptus nitens* and species such as *E. ovata* (FPA Flora Technical Bulletin 12.)

Pentarch does not use genetically modified trees for plantation establishment.

3.9. Native Forest Conversion

Pentarch complies with all relevant Commonwealth and State legislation including Tasmania's Permanent Native Forest Estate Policy.

Where small scale conversion for required infrastructure is undertaken within the DFA, a risk assessment is undertaken during the planning phase and appropriate offsets are identified and implemented to ensure the maintenance and enhancement of the permanent forest estate.

If there is a requirement to establish a practical boundary of an operational unit through re-alignment, this will be limited to a maximum of no more than 5 hectares or 1% of the harvest area per year.

In the case of severely degraded land within retained native forest, regeneration or replanting will be used to facilitate rehabilitation.

Any small-scale conversion operations that are undertaken in Tasmania will be approved by the Forest Practices Authority under a Certified Forest Practices Plan. These operations will be carried out in accordance with the Tasmanian Permanent Native Forest Estate Policy. The Forest Practices Plan process allows for the assessment of impacts and processes for protection of significant biological values. All FPP's are certified by a qualified Forest Practices Officer.

Before any native vegetation removal is considered, Pentarch will identify and assess the bioregional impact on any identified Significant Biological Diversity Values and ensure that the area does not include threatened forest ecosystems, old-growth forest that maybe rare or depleted or important habitat of threatened species. The removal would also be subject to relevant planning approvals and aim to achieve a net gain in accordance with the Native Vegetation Framework.

Should any significant biological diversity values be found during the forest planning process, the location of these values will be identified and excluded from any removal operation.

Where offsets are implemented, records will be kept with statements on the significant biological diversity values contained within the offsets and of how the offsets will achieve a net gain in biodiversity in the landscape to compensate for biodiversity loss from conversion.

Non-productive plantation areas maybe returned to their original land use in conjunction with second rotation operations.

Any properties that were purchased after 2006 have the appropriate authorisations under the relevant state regulatory authority. In some cases, there were isolated paddock trees or patches that were approved to be removed under this process.

4. Productive Capacity

Pentarch will determine current and future timber requirements with a firm focus on the production of quality forest products. Timing of harvest will depend on harvesting constraints, wood flow requirements of customers or to meet specific market requirements. Standing volume assessments will be undertaken prior to any harvesting operations being undertaken in the DFA.

Site quality and potential markets are evaluated prior to establishment. This helps to determine the most appropriate plantation spacing to achieve the maximum productive capacity of the site.

The hardwood plantation estate currently managed by Pentarch is primarily *E. nitens* with some *E. globulus*. They mostly occur along the escarpment where there is higher rainfall but colder conditions. The productivity of this resource is measured using the mean annual increment (MAI). This provides a measure of how the overall volume is increasing over time and is expressed as tonnes per hectare per year. The current resource ranges from 7.6 in the poorer areas to 22.1 in the better areas with the overall average of 14 tonnes/ha/yr. The aim is to achieve 15 tonnes/ha/year on all plantations.

4.1. Productive Capacity Identification

Pentarch currently provides and supplies a number of forest products, including export logs, pulpwood and woodchips to customer specifications. Pentarch is constantly seeking new market opportunities to provide product diversity and improve productive capacity.

The determined annual rate of harvest from the DFA is consistent with sustainable forest management and Pentarch's vision to expand its business in the medium to long term.

4.2. Harvest Rates

Harvesting rates are based on the silvicultural prescriptions, the landowner's management intent and advice from PFS including infrastructure capacity, contractor capacity, any operational restrictions including social impacts and prevailing markets. This is indicated in the relevant flowcharts in Appendices 1 - 4. These rates are regularly reviewed at operational meetings.

Specific harvesting objectives are developed for Pentarch Sustainable Harvest Guidelines for both Eucalypt Plantation and Native Forest.

In Tasmania, it also depends on the future land use as many of the locations are ex-agricultural land that the owner wishes to revert back to agricultural land after the existing plantation has been removed.

Related Documents:

Eucalypt Plantation Sustainable Harvest Guideline

Native Forest Sustainable Harvest Guideline

4.3. Plan and Monitor use

The forest practices planning process provides significant input and resources to maintain the productive capacity of the forest ecosystem. Issues such as soil compaction, drainage, firebreaks, and inappropriate silviculture are accounted for within the operational plan.

A regular inventory program is conducted on plantations currently managed by PFS enabling the accurate modelling of future product volumes and the development of a five-year wood flow plan.

Post-harvest yields from both thinning and clearfell operations, allow a comparison to be made of predicted/planned volumes and the measured sawlog volume and the weights measured over weighbridge for other products. This provides Pentarch with data to improve forest estimates and predicted volumes and monitor contractor performance.

As part of the planning process, the selection of suitable species is considered for plantation establishment appropriate to the site. This is described more fully within the Pentarch Plantation Establishment Plan.

Related Documents:

Plantation Establishment Plan
Plantation Growth Measurement Procedure
NF Volume Assessment Procedure
Thinning Assessment Procedure
Thinnings Difficulty Class Determination Procedure

4.4. Infrastructure

The operational planning process is comprehensive and takes account of existing and planned infrastructure. Maps attached to the operational plans indicate locations of proposed and existing roads and crossings that are used in the operation being planned for. Building or re-instatement of this infrastructure is done in accordance with the relevant state codes of practice.

Related documents:

Road drainage guidelines
NSW Plantations and Re-forestation Code (2001)
Victorian Code of Forest Practice for Timber Production (2014)
Tasmanian Forest Practices Code (2015)

4.5. Silvicultural Regimes

4.5.1. Plantations

Pentarch uses a simple silvicultural system for its managed plantation estate. The eucalypt plantations have a nominal harvest age of twelve years and they are usually clear-felled without any thinning. Pine plantations may be thinned depending on age, productivity, intended outcome and available markets. There is flexibility to vary the age at which harvesting may occur to enable Pentarch to manage the plantations in its DFA according to site and/or market conditions at the time.

Information is collected annually on growth rates that helps make management decisions on when properties may be included in the future harvest schedule. Availability of wet weather areas also contribute to the planning of harvesting operations.

4.5.2. Native Forest

The native forest estate within the Pentarch is mainly managed for non-wood values: water, biodiversity, conservation and cultural heritage. The amount of native forest that may be harvested on Pentarch managed land is a small portion of the total land area.

The most appropriate silvicultural techniques will be used to manage native forests in order to ensure the long-term productivity of the forest. The PNF Code for Southern NSW recommends appropriate silvicultural method/s for different forest structures. The COFPTP is referred to for Victorian forests. Forestry Tasmania Technical Bulletins provide a guide to the most appropriate silviculture in Tasmania.

Harvesting the native forest estate is a board level decision and Pentarch policy dictates that the Company cannot trade any native forest products that are not certified through approved forest management certification schemes.

4.6. Establishment

4.6.1. Plantations

The establishment of plantations is guided by the Plantation Establishment Plan and outlines procedures in relation to the site preparation, use of chemicals, seedling protection and fire management. Each individual plantation also has its own history file in which any information in relation to the establishment, maintenance and management of the plantation is collated.

Survival counts are conducted in the Autumn following planting. If survival rates are unacceptable, the following may be undertaken:

- If testing indicates that the soil type and structure is not adequate, Pentarch may need to look at nutrition or animal browsing as potential causes and then resolve the issue before the next rotation.
- If the ground appears as though it is unsuitable for plantation, Pentarch would recommend that the landowner consider an alternative use.

Related Documents:

Plantation Establishment Plan
Survival Count Procedure

4.6.2. Native Forests

If harvesting is undertaken, the method of regeneration of native forests will depend on the silvicultural regime adopted. Regeneration will be promoted during harvesting operations through soil disturbance to provide a suitable seed bed and through the retention of seed/habitat trees. Other selective harvest methods rely on existing young growing stock and/lignotubers to provide adequate stocking. In some circumstances, post-harvest burns may be used to ensure a receptive seedbed is available.

Regeneration surveys are conducted 12 – 36 months after harvesting to assess regeneration and stocking rates to ensure the productive capacity of the forest is maintained.

If seed is required for use to assist regeneration, it will be sourced from within the same seed zone. Where practicable, the composition of the forest dominants is maintained. Where selective harvesting operations are undertaken, the species composition is maintained.

Related Documents:

Native Forest Regeneration Assessment Procedure
Forestry Tasmania Technical Bulletin No. 6 (2010): Regeneration Surveys and stocking Standards.
https://cdn.forestrytasmania.com.au/uploads/File/pdf/technical_bulletins/tb6_regen_surveys.pdf

4.7. Minimising Damage to Growing Stock

The short rotation and the silvicultural system used (i.e. clearfell for pulpwood production) of plantations effectively eliminates the likelihood of damage to growing stock from harvesting operations.

When conducting operations within native forest, prescriptions within the relevant codes in NSW and Victoria are followed to minimise any damage to forest growing stock. This would include removing debris from the base of standing trees where possible, machinery not using retained trees as 'bumper' trees and the use of directional falling techniques.

4.8. Unplanned Fire

The nature of the fire risk to Pentarch's DFA varies according to a number of factors. These include: the location of the property, the proximity to other vegetation, the fuel load including the amount of debris on site and in surrounding areas, slope, aspect and weather conditions.

All Pentarch staff are trained in fire weather observations, wildfire awareness and wildfire suppression strategies. PFS (NSW) are an industry brigade within the Victorian Country Fire Authority.

All harvesting operations have on-site mandatory fire suppression equipment in working order. Equipment such as excavators, bulldozers and floats are available at short notice to assist with the suppression of unplanned fires.

In Tasmania, Pentarch is part of the Forest Industry Fire Management Committee (FIFMC). As part of this group, and in consultation with industry, a set of shut down guidelines for forest operations during high fire danger periods to minimise the risk of fires starting as a result of forest operations has been developed called "Fire Prevention at Forest Operations". It is mandatory for a copy of these guidelines to be kept on site at all times and stipulates equipment, personnel requirements and mandatory shut down procedures.

Roads, bridges and firebreaks maintained with the Pentarch DFA contribute to regional fire control infrastructure.

Related Documents:

Fire Closure Management Procedure

Provision of Wood Manual - section 2.7

Fire Prevention at Forest Operations (FIFMC)

4.9. Non-wood products

Pentarch is not responsible for the regulation of non-wood products from within its DFA.

5. Forest Ecosystem Health

5.1. Types of Damage Agents

Plantations and associated native forest in the Pentarch DFA are protected as much as possible from the adverse effects of fire and from the introduction and spread of weeds, insect and animal pests, plant diseases and pathogens.

Weeds, insects and vertebrate pests that have the potential to significantly affect plantation growth are managed as required, in accordance with health and environmental regulations, using licensed contractors and detailed prescriptions.

Fire management practices are based on reducing the risk of fires entering the plantations, maintaining good access for easy and rapid suppression as well as reducing fuel loads within the native forest DFA. Fuel management to limit the intensity and spread of fires and early detection of fires are important components of Pentarch's fire management practices.

Related Documents:

Plantation Establishment Plan

Fire Management Procedure

General Plantation Inspection Procedure

5.2. Maintenance of Forest Health

Experienced forest managers routinely observe forests and their condition, anything unusual is noted in the audit report and reviewed. If there is evidence of poor health in the trees, samples of the foliage are taken and sent to specialists for analysis. When results/recommendations are received, appropriate corrective measures are taken to improve the health of the stand.

Control of damage agents is undertaken on an "as needs" basis in consultation with the landowner and appropriate agencies.

Pentarch staff are aware of Myrtle Rust and Giant Pine Scale and will report any observations to the Biosecurity Department in the State of operation.

Related Documents:

Plantation establishment Plan

Foliar Sampling Procedure

Soil Sampling Procedure

5.3. Weeds and Pests

Pests and diseases can affect the survival, growth rate and form of individual trees, as well as the quality and value of timber produced.

The impact of pests and diseases needs to be considered at all stages in the development of a plantation.

During the planning stage information on actual and potential threats to tree health can provide valuable input into species selection and suitable locations.

After planting, trees are inspected on a regular basis for the presence of pests and/or disease. This ongoing monitoring and surveillance enables early detection of symptoms and assessment of likely impacts. It also enables remedial action to be taken before the problem becomes critical.

5.3.1. Weeds

Competitive weeds must be controlled during plantation establishment as they have the ability to seriously impact on growth rates and survival. The main competition includes grasses such as *Paspalum* and other pasture grasses.

Weed control is also important in native forests to protect the integrity of any natural areas reserved within the estate.

In addition, the control of certain noxious weeds is required under the NSW Noxious Weed Act 1993, Victorian Catchment and Land Protection Act 1994 and the Tasmanian Weed Management Act 1999.

As most of Pentarch managed plantations occur on ex-pastured land, species such as blackberry will infest cleared areas and some forested gullies where there has been significant disturbance. It rarely occurs within the native forest areas.

There are no extensive infestations of weeds in the native forest within the Pentarch DFA.

A weed eradication diary is kept to record opportunistic occasions where weeds have been removed from part of the mainland DFA. It records the name of the weed, how many plants have been removed, the treatment technique and the location.

An identification field guide to noxious weeds in Southeast NSW and East Gippsland has been developed for use. The field guide is used as a training tool for field staff and is used for the identification and management of weeds when conducting plantation visits.

In the Tasmanian context, the FPP process looks at presence of any declared weeds under the Tasmanian Weed Management Act (1999). If any weeds are identified through this process, applicable control measures are put in place. The FPP also refers to the Tasmanian Washdown Guidelines that are followed for any machinery entering or leaving a property.

As part of the plantation inspections procedure an action plan is developed if any major issues are identified. It has in place certain management decisions that are dependent on the results of the plantation inspection.

Machinery hygiene is important to help prevent the spread of weeds, wash-down guidelines and procedures have been developed.

The actions to reduce the presence of weeds of the DFA are reviewed by the Plantation Forester to determine if the controls have been effective. If it is considered that the current methods used are not effective, they are reviewed and modified where necessary.

Related Documents:

Plantation Establishment Plan

Machine Hygiene Control Procedure

Noxious Weed Descriptions – Southeast NSW and East Gippsland, Victoria

Provision of Wood Manual - section 6.1

5.3.2. Pest Animals

Pest animals are of concern when they impact on tree growth, environmental values of the forest and neighbouring properties.

Protection of young seedlings from browsing is a crucial step in the development of a successful plantation. Domestic livestock are excluded from the area prior to planting by fencing. Other animals such as rabbits, hares and wallabies are more difficult and costly to fence out. Shooting or poisoning may be necessary before and after planting. This does not occur unless the relevant permits have been obtained.

An integrated approach is needed for prevention of browsing to be successful.

Pentarch is represented on regional committees that coordinate feral animal control programs across all land tenures. Pentarch is part of the Southern Ark Program for fox control in East Gippsland and is an active participant in dog baiting programs in NSW-Victorian communities where plantations are located.

Related Documents:

Plantation Establishment Plan
Fencing and Livestock Guidelines
Use of 1080 Procedure

5.4. Fire and Disturbance Regimes

Native forest in and around the plantations of Pentarch's DFA is subject to planned burning regimes to protect the plantation commercial value, protect biodiversity values, restore pre-European ecological processes to some of the native forest estate and to minimise the chance of fire spreading onto neighbouring properties.

The management of this occurs within the mainland forest management units (FMU) as this is where the native forest component of the DFA occurs. The Tasmanian FMU deals with plantation only and as such no fire regimes are implemented.

The main disturbance regime used is hazard reduction burning to control the accumulation of flammable material within and adjacent to the estate. This both reduces the likelihood of serious resource damage occurring should an unplanned fire event occur during unfavourable weather conditions and increases the likelihood of controlling or minimising the impact of a fire event should such an event occur. In most situations fire will be excluded from areas of native forest that occur within streamside reserves.

Some areas of native forest are also managed for timber production and post-harvest burning is utilised for the primary aim of reducing the presence of flammable material.

Post burning assessments are conducted to determine whether the objectives of the burn have been achieved and if it has been effective. Depending on the outcome, the use of fire may be amended to increase its effectiveness.

Pentarch liaises with Government agencies and neighbours to co-ordinate fire management activities. When updating the three-year burn plan, Pentarch staff will contact neighbours and fire management authorities to ensure the plan is integrated into other agency plans.

All Pentarch harvesting contractors abide by the relevant State fire management guidelines and undertake a pre-fire season audit to ensure correct equipment is readily available and prepared.

Related Documents:

Fire Management Guidelines
Planned Burning Procedure
PFS NSW FIB Fire Management Plan (East Gippsland and Southeast NSW)
Forest Operations Planning Procedure
Tasmanian Forest Industry Fire Management Committee: Fire Prevention at Forest Operations Procedure

5.5. Degraded Forest

There have not been any areas of degraded forest identified within the Pentarch managed estate.

If this situation was identified within the DFA any need to rehabilitate would first be discussed with the forest owner and the feasibility of options assessed. Cost effective rehabilitation would be agreed to with the forest owner and would be undertaken where appropriate.

5.6. Chemical Use

Pentarch will not use World Health Organization Class 1A and 1B pesticides unless legally approved for use or pesticides that are banned by any international agreements defined in the Stockholm Convention on Persistent Organic Pollutants 2001.

Spraying guidelines have been developed with the use of agricultural chemicals specifically governed by the Commonwealth Agricultural and Veterinary Chemicals Act 1994. Products will be used in accordance with the label unless an off-label permit is obtained. Guidelines on how chemicals are used at various stages of establishment are documented further in the Plantation Establishment Plan (section 3.6).

All relevant stakeholders are notified before the commencement of any spraying operations.

Pesticide compliance reporting is undertaken to ensure that soil and water protection measures are in place and are being adhered to. Site specific spray plans are developed for each spraying operation. Spray programs are conducted under favourable weather conditions. Spray drift and non-target species impacts are considered as part of this plan.

Related Documents:

Plantation Establishment Plan

Pesticide Purchase and Reconciliation Procedure

5.7. Damaged Agent Salvage Operations

Pentarch would consider economic salvage of damaged forest subject to an operational plan that takes account of any reserved areas and significant biodiversity values. Where possible, stand structure and biological legacies will be retained.

6. Soil and Water Resources

As part of the planning process, forestry related activities are identified that may impact on soil and water values.

6.1. Soil and Water Values

The various codes in each state i.e. Southern NSW PNF Code, NSW PRA Code, Victorian COFPTP and Tasmanian FPC provide guidelines to protect soil values on forested land. The prescriptions may vary according to soil type, slope, the intensity and magnitude of timber harvesting, the type and size of harvesting machinery and the season.

The prescriptions specify minimum standards for the location, design, construction and maintenance of timber extraction roads, major extraction tracks and log landings to reduce environmental risks to soil and water quality. This includes the type of drainage required on these roads.

Related Documents:

Road Drainage Guidelines

Provision of Wood Manual and FPP Planning Process

6.2. Water Quality

In addition to controlling erosion, the potential to impact on water quality through plantation or native forest operations is reduced by retaining vegetated buffers alongside drainage features. These buffers act as a filter to minimise the risk of sediment laden runoff reaching the drainage feature. These prescriptions are described in the relevant codes and the width of the buffer depends on the size or order of the stream being protected.

Controls are put in place along roads and stream crossings to minimise any potential for sediment to enter these streams as mentioned in section 6.1 above. These prescriptions are described in the relevant state codes of practice. Machine operators are trained in soil and water protection.

6.3. Water Quantity

The forest practice codes, i.e. Forest Practices Code 2015 (Tas), Forest Soil and Water Protection Manual NSW and the Victorian COFPTP set out prescriptions and guidelines to protect water values during forest operations. These include protection through streamside reserves and guidelines for road construction and harvesting in water supply and their significant catchments

Timber harvesting may impact upon the quantity of water flowing in streams over time. Water flows from harvested areas will increase immediately after harvesting but begin to decrease as the regenerating forest or plantation establishes.

This effect may be localised as a Bureau of Rural Sciences Paper written in 2004 regarding plantations and water stated that *“the impact plantations have on stream flow is difficult to detect in smaller catchments when less than 20% of the catchment was planted”*. Pentarch managed plantations are dispersed throughout Southeast NSW, East Gippsland and Tasmania and harvesting is likely to have a negligible impact on water quantity as they are significantly less than 20% of the catchment planted.

6.4. Soil Properties

The various state forest practice codes require that soil properties and erosion hazards are assessed during the planning process and protection measures are incorporated into operational plans.

Proper care of forest soils is fundamental to sustainable forestry. Provisions in the codes consider soil erodibility, load bearing capacity, soil depth, susceptibility to nutrient loss and susceptibility to landslide. If there are concerns about the nutrient status of a site, soil sampling is conducted and the samples are sent away to accredited laboratories for analysis.

In Tasmania a planning guide is provided to prompt forest planners. Reference is also made to geology maps, Forest Soils of Tasmania and FPA Forest Soil Fact Sheets that contain detailed descriptions, hazards and management options.

Prescriptions for road and snig track drainage are taken from the codes and where appropriate put into the operational plan.

Related Documents:

Soil Sampling Procedure

Provision of Wood Manual - Section 3

FPP Planning checklist

6.5. Pollution

Substances such as fuel, lubricants and herbicides are potentially hazardous to the environment. Precautions must be made to ensure that these types of substances do not pollute waterways and groundwater.

A risk management approach is taken for those activities that use, produce, convey or store significant quantities of materials that could cause serious or material environmental harm to soils or waters if released.

Pentarch manage fuels, oils, rubbish and emissions in accordance with the requirements of the relevant State forest practices codes. Prescriptions for the management of fuel and oils are noted in the operational plan. There is a legislative requirement to notify the Tasmanian Department of Environment of any fuel or oil spills over 20 litres.

If there is a major storm event, normal prescriptions may not be able to withstand the effects caused by the event. Following a major storm event, plantations managed by Pentarch are inspected as soon as possible to determine damage levels to roads and soils. If damage is found, appropriate remedial works are put into place to re-stabilise affected areas.

Reporting on compliance is done both internally and externally, with independent audits conducted annually.

Related Documents:

Environmental Incident Management Procedure

Spills Management Procedure

Remote Chemical Transfer Procedure

Provision of Wood Manual – Section 3.0

Fuel management requirements for Contractors

7. Carbon Contribution

7.1. Carbon Cycle

Operations managed by Pentarch generate a number of environmental benefits for the community including improving soil conservation and water quality in streams and rivers, maintaining biodiversity and the capture and storage of the major greenhouse gas CO₂ as fixed carbon which has consequences far beyond the area in which the plantations are located.

Pentarch also acknowledges that its plantation estate has the capacity to act as a carbon sink. Within native forest on its estate, there is the capability to increase the amount of carbon storage by promoting natural regeneration after harvesting operations.

Different techniques are continuing to be trialled to maximise the carbon pool. For example, retaining slash during harvesting operations, and leaving stumps in the ground maintains a valuable carbon store and helps to balance the carbon that is released during the harvesting and ground preparation stages. Not burning excess debris after harvest also improves carbon retention.

7.2. Fossil Fuel Usage

Pentarch aims to reduce fossil fuel use through a number of initiatives including regular maintenance of vehicles, optimising legal haulage distances and the use of appropriate silviculture to maintain forest health and vigour.

Pentarch encourages the use of mass management by haulage contractors to improve efficiencies and reduce fuel consumption per tonne transported.

Related Documents:

Heavy Vehicle Mass Management Procedure
Provision of Wood Manual – Sections 5.2 – 5.7

7.3. Carbon Storage Measurement

Pentarch uses a simple calculator to estimate the quantity of carbon stored in plantations 6 years of age and older. A calculation for native forests and fallow land may be developed in the future.

Related Documents:

Plantation Carbon Stock Calculation Procedure
Plantation Carbon Stock Calculator

8. Cultural Values

8.1. Indigenous Peoples Values

The Company acknowledges and pays respect to the Aboriginal community as the traditional and original owners and continuing custodians of the land managed by Pentarch. It recognises indigenous people's rights and responsibilities in relation to the DFA.

There are no existing rights on the DFA that the Company is aware of through engagement with local communities in and around DFA operations.

8.2. Indigenous Heritage Values

The protection of Indigenous relics is regulated by the Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act (1984), NSW National Parks and Wildlife Act 1974, the Victorian Aboriginal Heritage Act (2006), the Tasmanian Aboriginal Heritage Act (1975) which requires that relics not be knowingly disturbed without a permit and that any discovery be notified to the relevant Departments.

As part of the planning process local indigenous people (usually the Local Aboriginal Land Council) may be contacted before the commencement of any activities. Once contacted, the representative or council may survey the area for potential sites. If certain values or artefacts are found, recommended prescriptions to ensure their protection will be followed. These are noted in the relevant operational plans.

The NSW NPWS also has an Aboriginal Heritage Information Management System that includes a database and recording cards for all Aboriginal objects, Aboriginal places and other Aboriginal heritage values in NSW that have been reported to the NPWS. These may also be accessed when planning operations.

In Victoria any matters dealing with Aboriginal Heritage are managed through the East Gippsland Shire Council as part of their planning process. A Local Provision within the East Gippsland Planning Scheme has an Aboriginal Heritage Policy (point 22.10) that deals with the protection of aboriginal heritage sites.

In Tasmania a Forest Practices Authority endorsed Aboriginal Heritage trained FPO has authority to plan sites and where possible consults the aboriginal community. They have delegated authority to access sensitive data sets to identify priority areas. All aboriginal heritage sites and associated data are recorded in the Aboriginal Heritage Register (AHR) which is administered by Aboriginal Heritage Tasmania (AHT). FPO's can request a search of the register to determine the risk of impact to registered Aboriginal sites.

The States forest planning codes all have prescriptions in place that are followed should any cultural or heritage sites be discovered. Most heritage and cultural values are effectively maintained by excluding operations in the form of a buffer around an identified site. These are indicated in any operational plans developed. This will help in avoiding damage to any significant items.

In preparing and reviewing the forest management plan, relevant indigenous people are included in the stakeholder engagement process. If any views are put forward, Pentarch will take due consideration as part of the review.

Related Documents:

Identification and Protection of Cultural Heritage Procedure

Tasmanian FPP Planning Process

Aboriginal Heritage Standards and Procedures (June 2018) – Aboriginal Heritage Tasmania

8.3. Other Heritage Values

For any sites of non-indigenous heritage, NSW, Victoria and Tasmania (under the respective Heritage Acts) have registers that can be accessed to determine if there are any sites located in the area that is being planned for forestry activities. During the planning process, any anecdotal evidence may also be followed up. The Tasmanian Forest Practices System includes non-indigenous cultural heritage planning requirements.

If any heritage sites are discovered during the course of operations, the area will be set aside and the relevant body contacted to assess the site for its heritage value. If it is determined that there is value to the site, it will be protected to ensure damage is avoided.

8.4. Legal and Traditional Uses

There are no existing legal and traditional uses occurring within Pentarch's DFA.

Access is monitored by Pentarch forest contactors and staff on an informal basis. Some properties have agreements with hunters, as individuals or organisations with permission to access. Some parts of the DFA provide access for beekeepers and for agistment purposes.

Where access is granted, it is done under certain conditions that ensure the integrity of the DFA.

Related Documents:

Good Neighbour Guidelines

Fencing and Livestock Guidelines

9. Social and Economic Benefits

9.1. Regional Development

The plantation and native forest estate managed by Pentarch delivers significant environmental, social and economic benefits to the South East of NSW, East Gippsland Region in Victoria and throughout Tasmania.

Pentarch is a significant contributor to local and regional economies, employing local staff, engaging regionally based contractors and buying locally where possible.

The social benefits of Pentarch's plantation and native forest operations include supporting local services such as fire brigades, charities, sporting bodies and community programs.

Pentarch also assists through fire protection and management practices of its DFA, the protection of life and property providing community benefit.

9.2. Optimal Use

Pentarch services many markets giving forest owners within its DFA flexibility in providing product optimisation and the best returns. Products include hardwood sawlogs, peelers, hydro-poles, woodchips, fuelwood, bark, mulch, softwood pulpwood, sawlog and veneer logs. Pentarch is constantly looking for new and improved markets to deliver improved outcomes while minimising waste.

Pentarch has demonstrated initiative in finding markets for waste in the Potential Sawlog Retention Project, where commercial thinning was found to advance native forest regrowth and added value to the standing crop.

Funding has also been received under the Wood and Fibre Processing Innovation Program in Tasmania to enhance the current timber and manufacturing centre at Burnie.

9.3. Illegal Activities

Pentarch and its contractors are mindful of the possibility of illegal activities occurring within the DFA and keep a watch on areas in which they are working. Gates are closed at the end of the day or as required by the landowner. Appropriate signage is erected for active sites and gates for security occur at remote locations. Pentarch also works in cooperation with neighbours for management of illegal access and identification of illegal activities in remote locations.

Pentarch will report illegal activities to the relevant state authority and the landowner.

Collection of evidence is on an “as needs” basis in cooperation with the relevant authorities.

Related Documents:

Stakeholder Engagement Plan
Dispute Resolution Procedure

9.4. Skills Development

Pentarch is committed to having competent staff and contractors working in DFA operations who are accredited to nationally recognised competency standards. Pentarch also supports equal employment opportunities, identifies and implements actions to support employment and skills development of its workers.

Training and development needs, in relation to enhancing the job currently performed and career planning, are discussed and agreed at the employee's annual performance review. It is both the employees and managers responsibility to ensure that this training plan is carried out.

Training for contractors is encouraged by Pentarch and courses are often arranged and organised by Pentarch staff. This particularly occurs when there are changes to crucial legislation. For example, chain of responsibility and truck safety awareness campaigns for staff and contractors (and their employees) were conducted early in 2018.

Registers of employees and contractors' skills, and training needs are kept within the Lucidity software program.

9.5. Health and Safety

The Pentarch Group of companies values its people and their wellbeing. It is committed to providing a safe and healthy workplace for all staff, contractors and visitors. A copy of the Pentarch Group WHSE policy which includes the Pentarch Forestry Division can be found on the Pentarch Intranet.

Pentarch fosters a safe working environment and complies with the NSW Work Health and Safety Act 2011, Tasmanian Work Health and Safety Act 2012 and the Victorian Occupational Health and Safety Act 2004 and associated regulations. Improvements in workplace safety are facilitated through on-going consultation with workers.

Regular toolbox talks are held at the site and team level. Pentarch has a WHSE committee in place with representatives from management and employees. This includes the Forestry, Agriculture and head office divisions. Meetings are conducted monthly and chaired by the CEO of the Pentarch Group. Copies of minutes are shared through Office 365 and any actions arising from these meetings are recorded within the Lucidity software program.

Pentarch has recently commenced an employee assistance program that provides counselling for work and personal issues which may impact on employee wellbeing. It provides direct access to a counsellor at no cost to the employee and is completely confidential.

The Pentarch Safety Management System is currently being reviewed and updated to provide consistency across the group. This review is being conducted by the WHSE Manager.

Procedures are in place to manage fatigue. They provide the minimum requirements and relevant information regarding the management of fatigue and the hours of work within Pentarch's places of work. The safety and wellbeing of all Pentarch and associated personnel is the primary focus of the fatigue management procedure.

Operations managed by Pentarch are covered by the various Forest Safety Codes within each State and provide practical guidance for safe work practices and the prevention of injury in the workplace.

Pentarch has a procedure in place that outlines the essential stages in contractor management and the responsibilities and accountabilities for all parties involved at each stage. It acts as a minimum standard for the Pentarch Group of companies. Refer to the Contractor WHSE Management Procedure for more detail.

This process applies to any business or individual defined as a Person Conducting a Business or Undertaking on behalf of Pentarch. It also applies to worksites that have been handed over entirely to a contractor.

Prior to commencement of forest operations, a Forest Operations Safety Plan (or equivalent) is prepared by the forestry supervisor and the harvest contractor. The plan identifies potential hazards and risks associated with a particular operation and identifies ways to minimise these risks.

Related Documents:

Workplace Health Safety and Environment Policy
Fit for Work Policy
Managing Fatigue and Hours at Work Procedure
Contractor WHSE Management Procedure
Contractor WHSE Self-assessment Checklist
Working alone call up Procedure
Emergency Preparedness Procedure
Tree Hazard Management at Fire Operations Procedure
Forest Operations Safety Plan
Contractor Safety Return

9.6. Worker's Rights

Pentarch management respects the rights of employees to join a union or association and to bargain collectively without fear of intimidation or reprisal.

Pentarch management fully supports the use of equal employment opportunity principles to engage workers. This is expressed clearly within the EEO Policy. Employment decisions are based on merit and ability. Not only are all suitably qualified persons given employment consideration, but those already employed continue to have access to opportunities for progression according to their abilities.

All wage-earning employees enjoy employment conditions that are formalised within either enterprise agreements or modern awards. Any enterprise agreements in place pass the "better off overall test" as set out under the Commonwealth Fair Work Act 2009 and are periodically reviewed with affected employees.

Representatives of organisations representing forest workers such as unions are provided with access and facilities to be able to engage with their members. Pentarch requests that union representatives provide adequate notice before entering the site unless it is for an urgent work health and safety matter.



PENTARCH
FORESTRY

PENTARCH FORESTRY FOREST MANAGEMENT PLAN

Remuneration audits are periodically conducted by Pentarch to check that workers have been paid according to the relevant enterprise agreement or award, whichever is applicable. Contractors engaged by Pentarch may also be subject to an audit regarding remuneration.

Pentarch informs new employees of their rights in relation to the National Employment Standards under the FWC 2009 and the rights with respect to discrimination in the workplace as part of the induction process.

Related Documents:

Employee Induction handbook

Pentarch Group EEO Policy

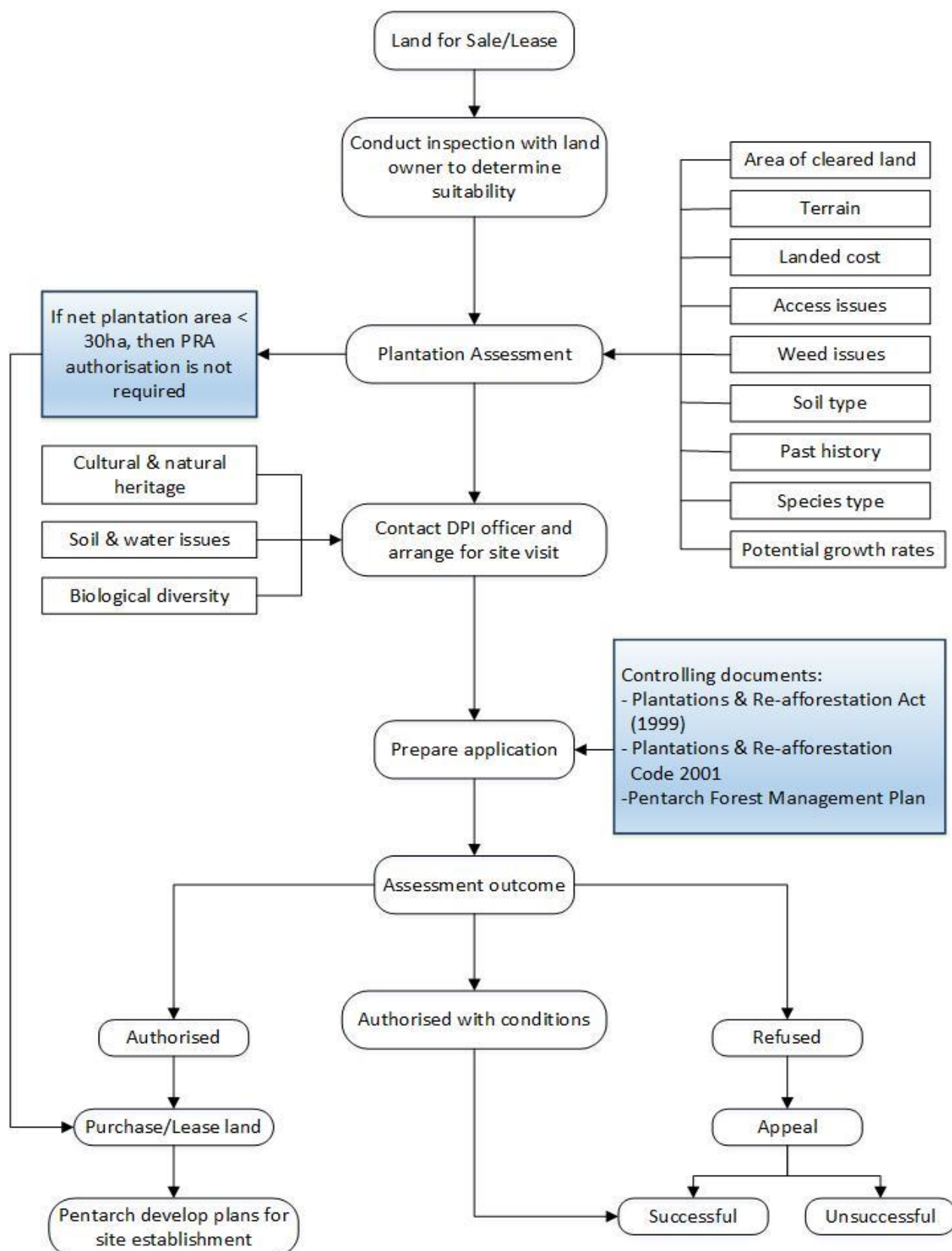
Pentarch Group Disciplinary Process

Pentarch Group Harassment, Bullying and Discrimination Policy

Grievance Resolution Procedure

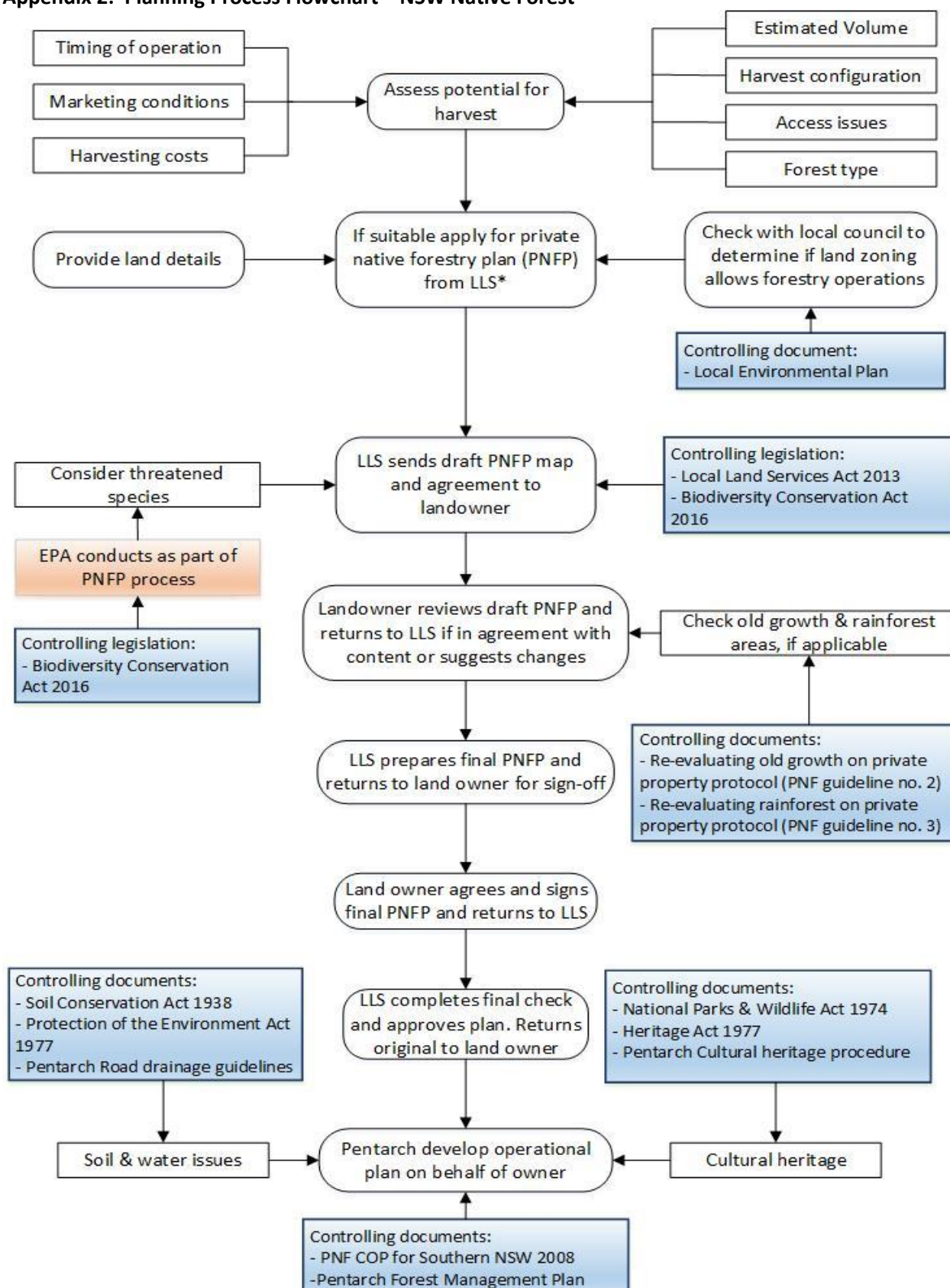


Appendix 1: Planning Process Flowchart – NSW Plantations



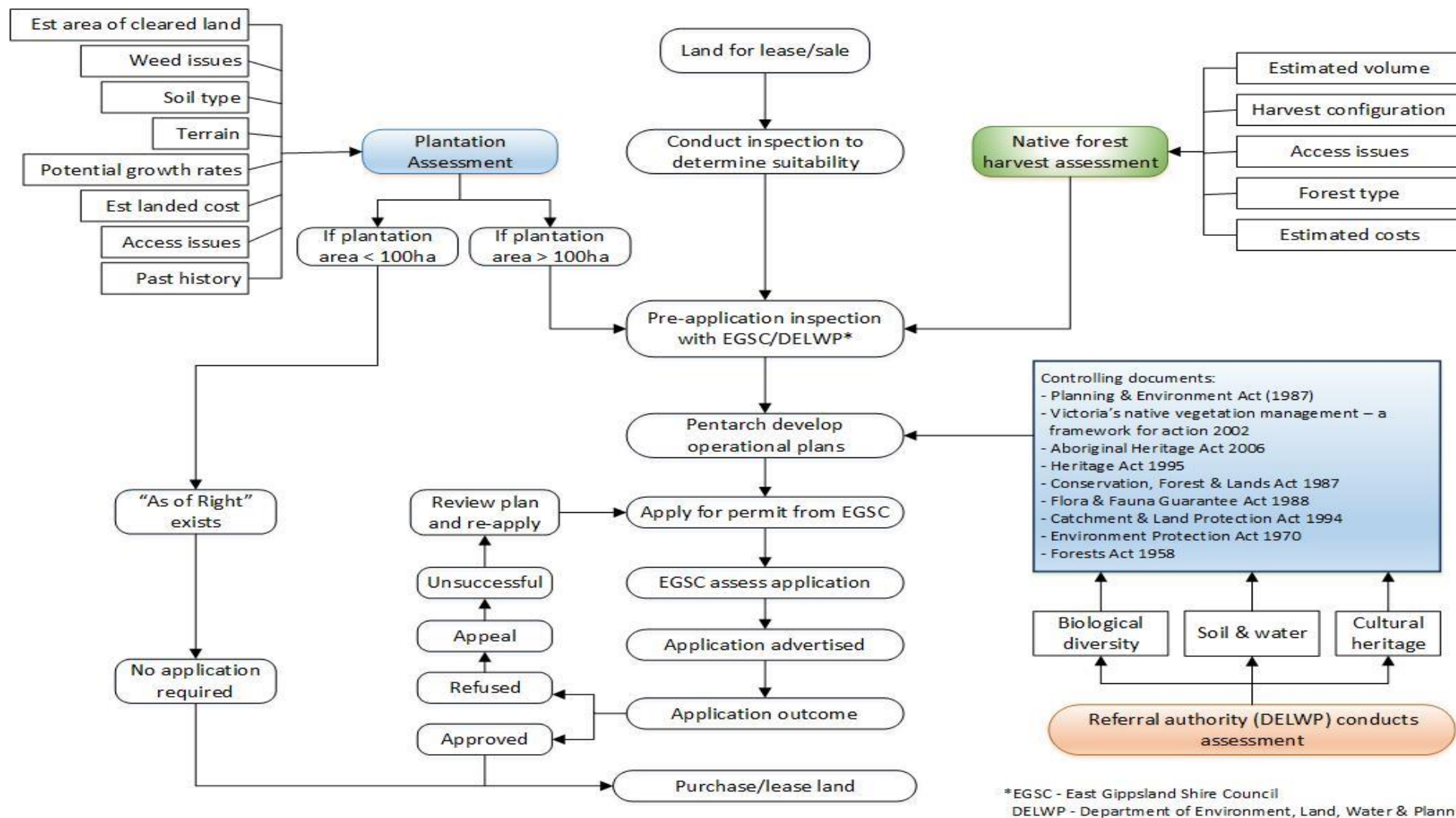


Appendix 2: Planning Process Flowchart – NSW Native Forest

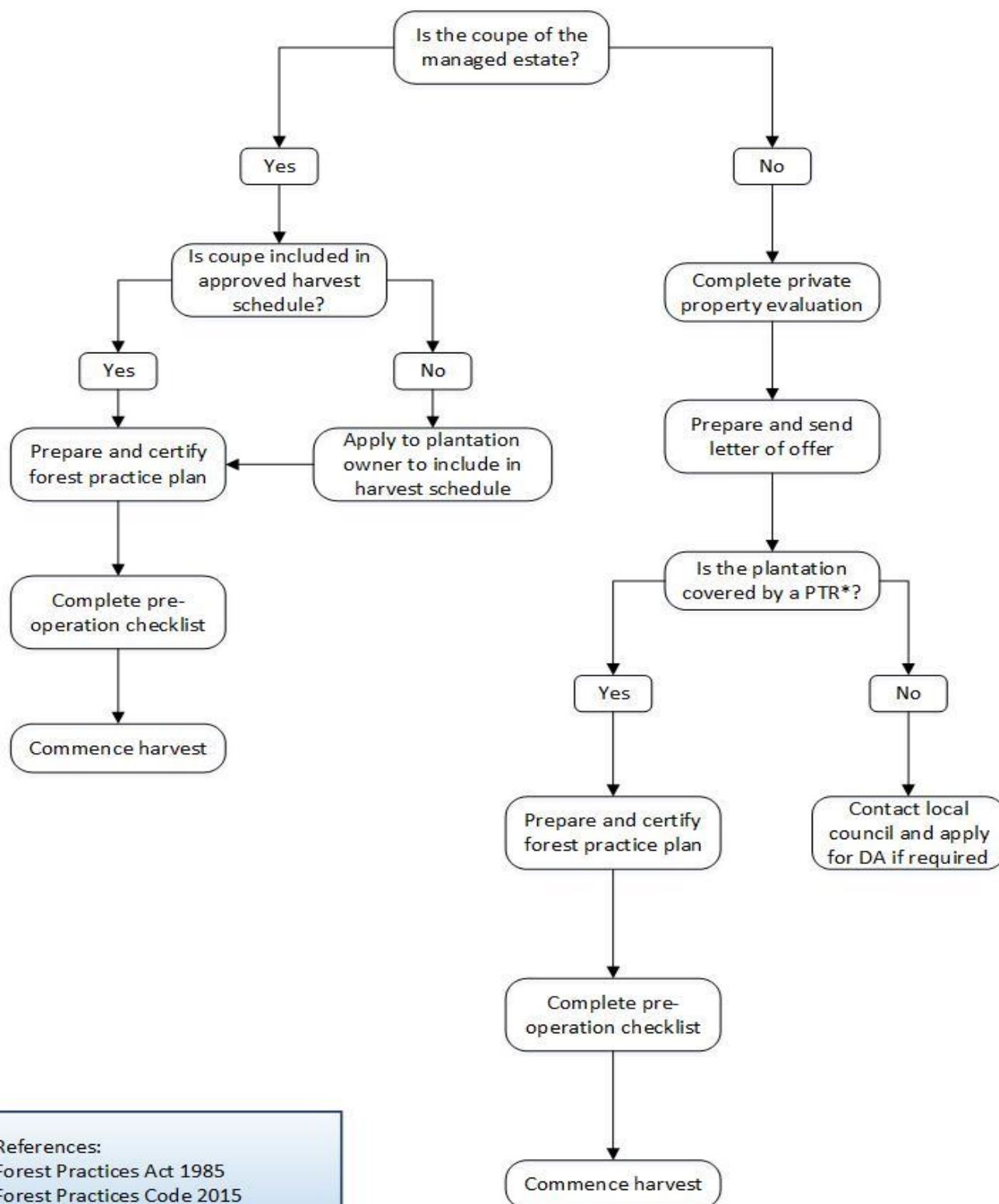


*LLS – NSW Local Land Services

Appendix 3: Planning Process Flowchart – Victoria Native Forest and Plantations



Appendix 4: Planning Process Flowchart – Tasmanian Plantations



References:
Forest Practices Act 1985
Forest Practices Code 2015
Aboriginal Heritage Act 1975
Work Health & Safety Act 2012
Forest Safety Code 2007
Washdown guidelines 2004

*PTR – Private Timber Reserve