



HARDWOOD FORESTS DIVISION

**FOREST MANAGEMENT
PLAN FOR THE WESTERN
FORESTS OF NSW**

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www.forestrycorporation.com.au

INTRODUCTION

Forestry Corporation of NSW (Forestry Corporation) is the largest manager of commercial native and plantation forests in New South Wales (NSW). Managing more than two million hectares of forests and contributing 14 per cent of all wood produced in Australia each year, the corporation is a major force in the state's forest and wood products industries which employ 22,000 people and add an estimated \$2.4 billion to the economy annually.

In NSW there are 80 million hectares of land, 22.6 million of which is forested. Of this, Forestry Corporation manages around two million hectares and in any given year, approximately 30,000 hectares is harvested for wood.

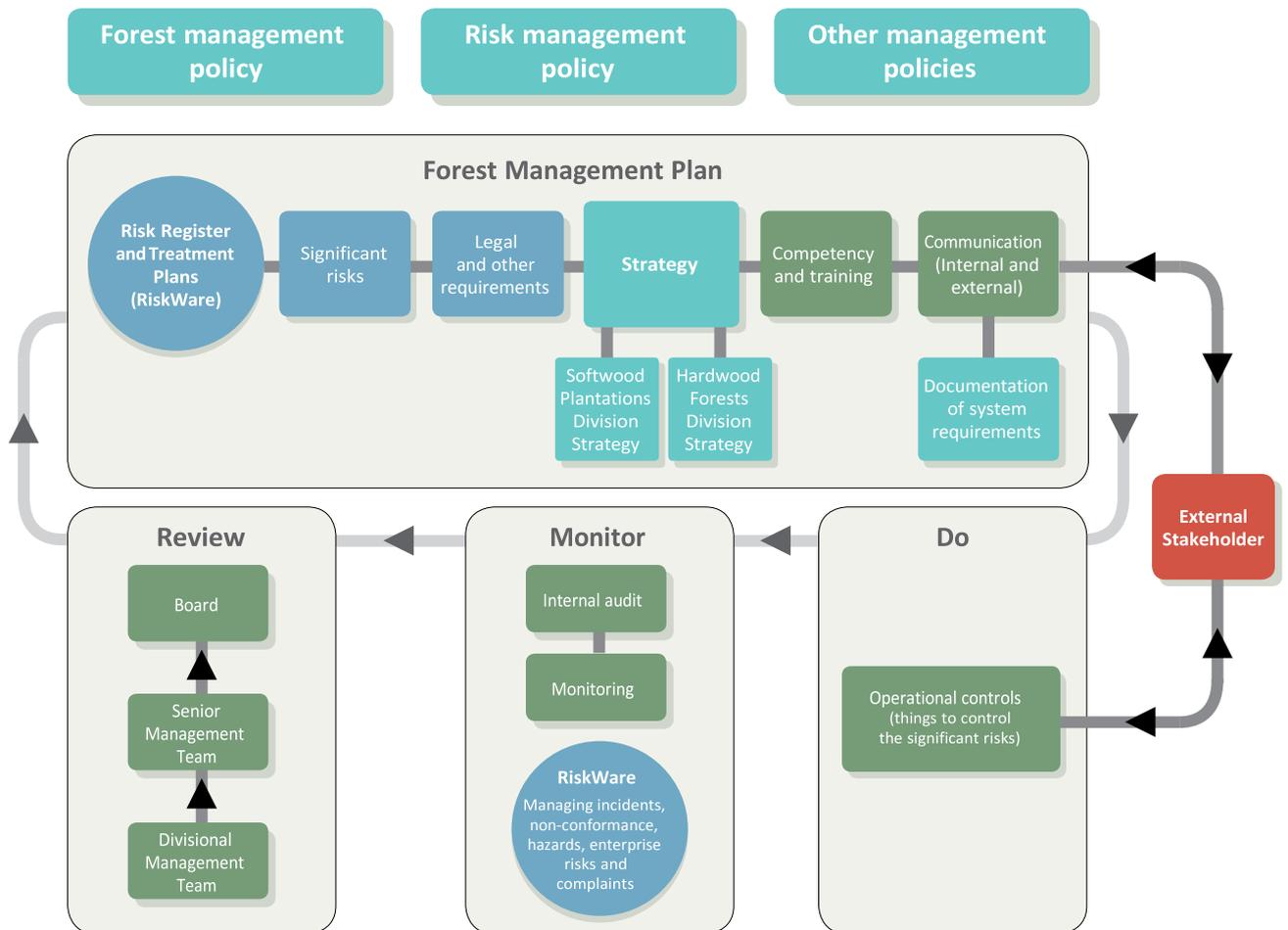
Forestry Corporation is Australia's largest grower of plantation pine, producing enough wood to construct a quarter of the houses built in Australia each year.

Forestry Corporation is required to have a Forest Management Plan (FMP). This plan must meet several legal and other requirements. These have been detailed in Table 1.

THE FOREST MANAGEMENT PLAN

The FMP is a component of Forestry Corporation's comprehensive Forest Management System (FMS) as shown in Figure 1. The FMS contains the policies, procedures, process maps, operational manuals and other documents Forestry Corporation uses in our day-to-day forest management.

Figure 1: The Forest Management System



Draft for consultation

This FMP is a summary of Forestry Corporation’s approach to sustainable forest management, outlines our legal and regulatory framework and demonstrates our commitment to ecologically sustainable forest management (ESFM) and to maintaining certification to the Australian Standard for Sustainable Forest Management (AS 4708) and ISO 14001 Environmental Management Systems.

Together, the FMS and this plan meet the forest management and reporting requirements of the Australian Standard for Sustainable Forest Management (AS 4708) as well as our obligations to have FMPs under the Forest Agreements (FAs) and the *Forestry Act 2012*.

This FMP replaces the 2008 Regional ESFM Plans for the Western and Riverina Regions. While the FMP is a more streamlined document than the previous ESFM Plans, this serves to more efficiently communicate the direction and management approach and does not diminish the commitment of Forestry Corporation to delivery of regional ESFM outcomes. The same principles, practices, consultation and reporting requirements continue to apply which are outlined in *Table 1* below.

Integral in development of the FMP is consideration of stakeholders and their priorities for long term sustainability of NSW State forests and the timber industry. Forestry Corporation’s stakeholders include, neighbours, local communities, customers, contractors, forest users, regulators, government agencies, industry and employee groups, Aboriginals groups and communities and non-government organisations. Forestry Corporation sought and considered stakeholder feedback in the development of this FMP.

This plan is organised into four key focus areas – our business, our environment, our community and our staff (see *Figure 2*). Each of the four major headings has 3 subheadings which broadly align with the principles of ESFM and the Australian Standard for Sustainable Forest Management. Within each chapter, Management Focus Areas are highlighted. These are aspects of forest management that are seen as being particularly important in delivery of ESFM outcomes. Each of the Management Focus Areas are brought together in a consolidated list under the heading ESFM commitments. The objectives and focus areas articulate our commitment to ensuring both sustainable management of NSW State forests and a long-term sustainable business.

Table 1: Forest Management Plan requirements

Instrument	Requirement	How it is met
Forestry Act 2012	A FMP, including relevant ecologically sustainable forest management (ESFM) strategies, is to be made publicly available on Forestry Corporation’s website.	This plan will be published on the Forestry Corporation website. A range of other documents that form part of our FMS are also either published on our website or provided to the public on request.
Australian Standard for sustainable forest management	FMP must be in place and summary document made publicly available.	This plan will be published on the Forestry Corporation website as the summary document. The FMS outlines the details for FMP and practice.
Forest Agreements	Regional Ecologically Sustainable Forest Management (ESFM) Plans are to be developed to implement the NSW forest agreements. Public consultation must be undertaken in the development of these plans and they are to be made publicly available.	This FMP meets the requirement to have an ESFM Plan outlined in the FAs. Forestry Corporation has consulted with stakeholders before finalising this plan and will publish the final document on our website.

Figure 2: Forestry Corporation sustainability framework wheel



FOREST SUSTAINABILITY

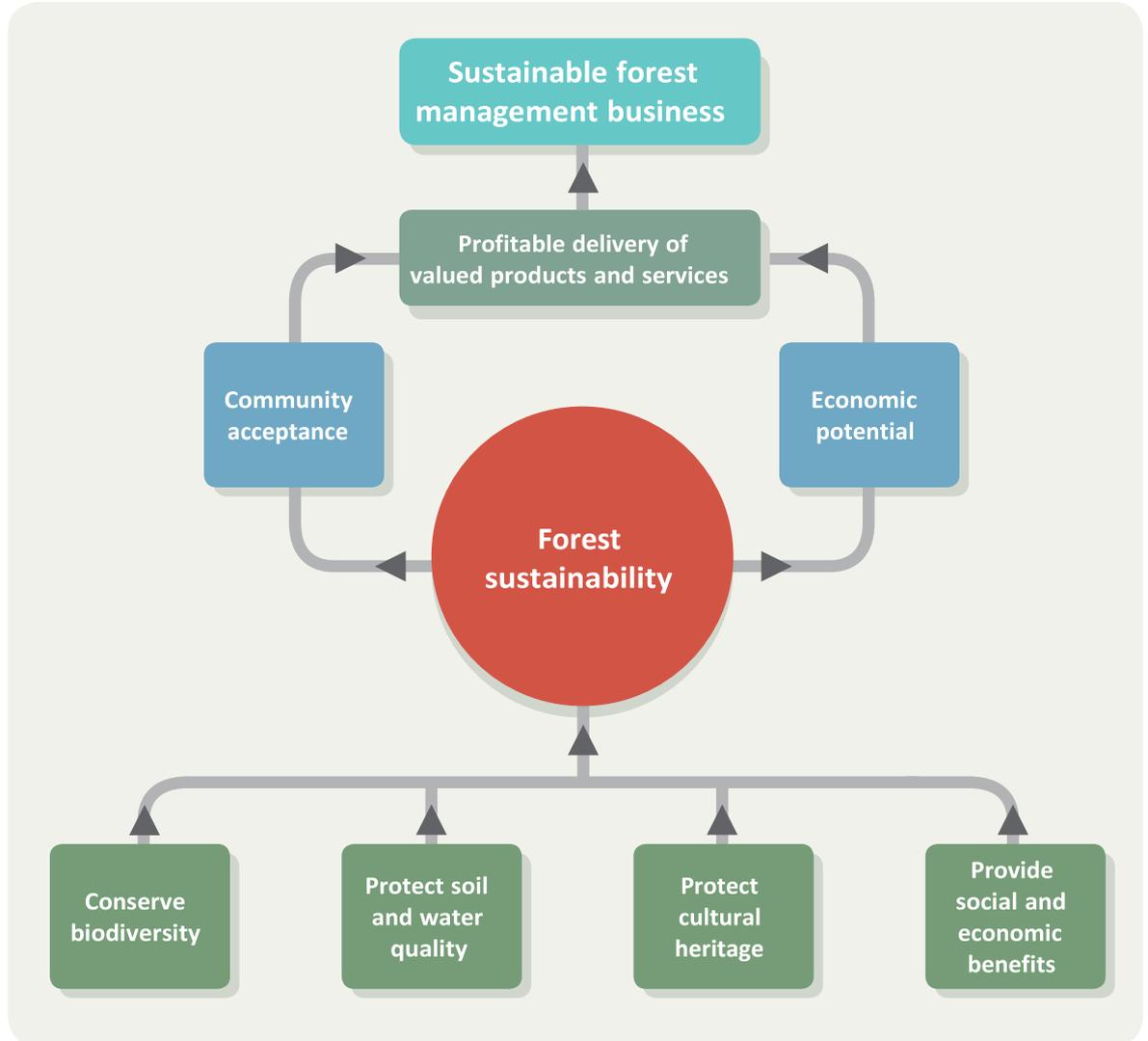
‘Sustainability’ is about meeting the needs of the present without compromising the ability of future generations to meet their own needs¹. The sustainability of our business is founded on ESFM principles.

The ability of the forests we manage to provide a range of services and products underpins the long-term success of our business which is illustrated in *Figure 3*.

Successfully balancing society’s needs for products and services, such as wood and recreational opportunities, with the needs of forest ecosystems ensures we continue to sustainably produce one of the most renewable natural resources in the world.

¹ Our Common Future (also known as the Brundtland Report) from the United Nations World Commission on Environment and Development (WCED), published in 1987

Figure 3: Sustainable forest management infographic



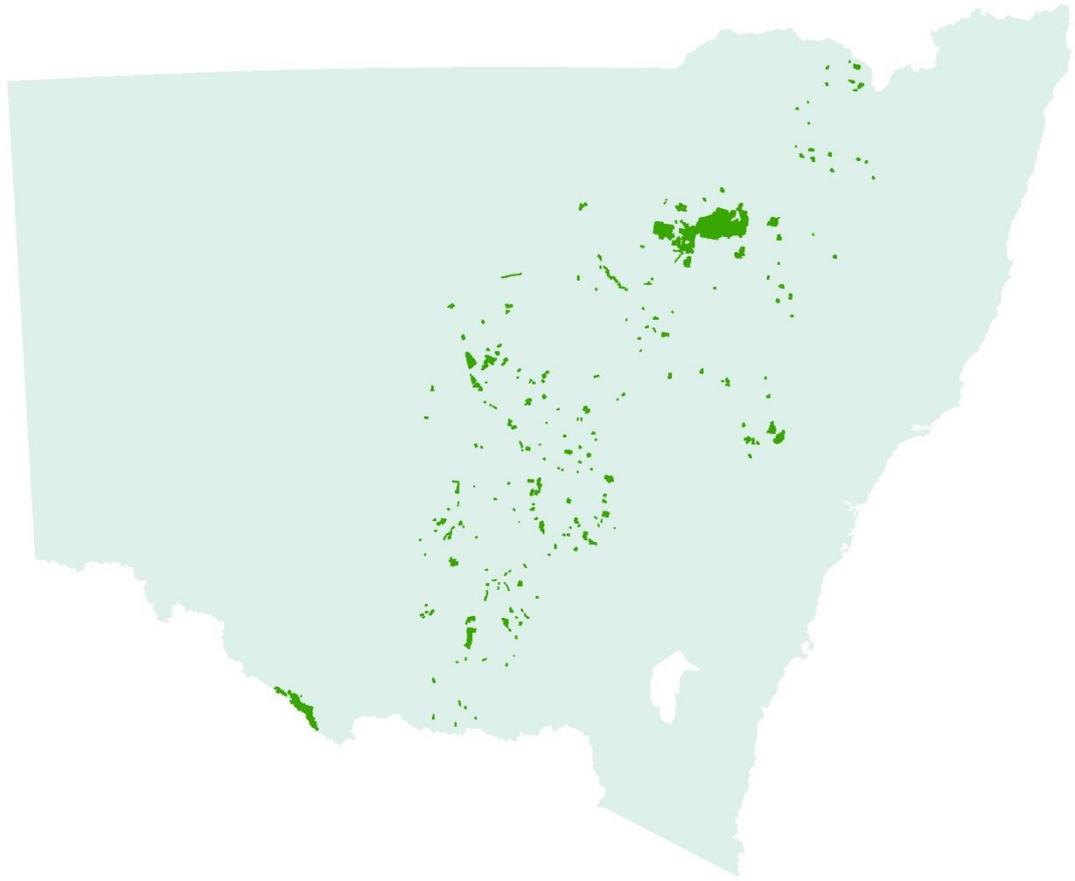
Forestry Corporation shows its commitment to the management of sustainable forest management by contributing to:

- National State of the Forests Report
- Regional Forest Agreements (RFAs) / Western Forest Assessment process
- Forest Agreements
- Integrated Forest Operations Approvals (IFOA) for harvesting in native forests
- ESFM Plans/FMP
- Australian Standard for Sustainable Forest Management (voluntary)

LAND TO WHICH THIS PLAN APPLIES

This forest management plan applies to the Defined Forest Area for the Western Forests of NSW, which is illustrated in greater detail in maps provided on Forestry Corporation's website. A separate forest management plan has been produced for the Coastal Forests.

Figure 4: Western Forests of NSW covered by this plan



ESFM COMMITMENTS

Forestry Corporation produces an Annual Report which is tabled in the NSW Parliament. In addition, Forestry Corporation reports its performance against a suite of sustainability indicators consistent with reporting commitments under the Montreal Process¹, the FAs and IFOAs. This information is published on the Environment Protection Authority website at: <http://www.epa.nsw.gov.au/forestagreements/annualprogrpts.htm>. Forestry Corporation prepares annual Sustainability indicators which are available at the Forestry Corporation website: <http://www.forestrycorporation.com.au>.

The ESFM management outcomes presented in the table below are a summary of the Objectives and Management Focus Areas for Hardwood Forests Division (HFD) over the next 5 years. Development and review of HFD Strategic Plans supports these key focus areas. The various chapters of the FMP outline in greater breadth and detail the context for management activity in each focus area.

ESFM OUTCOMES

Table 2: ESFM Outcomes

Aspect	Objective	Management Focus Areas
Our business	To be a long term financially sustainable provider of wood for the benefit of the people of NSW	<ul style="list-style-type: none"> ■ Maintain continuity of wood supply by ensuring timely and thorough tactical and strategic planning ■ Maintain certification under the Australian Standard for Sustainable Forest Management (AS4708:2013) and ISO14001 standards ■ To ensure compliance monitoring is consistently undertaken across the Division and that continual improvement underpins management systems ■ Identify and manage risks in all operations to meet or exceed expected environmental outcomes
Our environment	Maintain the full suite of environment and heritage values across the forested landscape	<ul style="list-style-type: none"> ■ To contribute to improvement of forest health by undertaking targeted pest and weed management programs ■ Continue to implement the Environmental Water Management Plan that has been developed for Koondrook-Perricoota State Forests under The Living Murray initiative. ■ Maintain the productive capacity of the forest estate ■ Using monitoring programs and research across the region to guide management of ecosystems and specific wildlife initiatives ■ Use comprehensive planning and operating rules to limit the risk of erosion and water quality degradation from forest roads and trails ■ Contribute to carbon cycle research and maintain carbon accounting requirements
Our community	Ensure that FCNSW is a valued contributor to the social, cultural and economic well-being of regional communities	<ul style="list-style-type: none"> ■ To be seen as a reliable land manager, good neighbour and corporate citizen ■ Have active engagement with Aboriginal groups and traditional owners ■ Build relationships with non-government organisations ■ To be regarded as a reliable wood supply partner ■ Meet fire suppression and hazard reduction obligations under the <i>Rural Fires Act 1997</i>

¹ The Montreal Process is a voluntary agreement on sustainable forest management developed in Geneva Switzerland in 1994 and resulted in development of a series criteria and indicators for the conservation and sustainable management of temperate and boreal forests (Montreal Criteria and Indicators).

Our staff

To build on the qualities of our people to develop a dynamic workforce for the future

- Develop the resilience of employees
 - Have a workforce committed to positive health and safety outcomes
 - To ensure that staff are productive and motivated
 - All staff to have individual Personal Development Schemes in place
-



OUR BUSINESS

The origins of Forestry Corporation date back to the early days of the Colony of NSW with various types of timber cutting licences issued. The first forest reserves were proclaimed in 1871 with the aim of preserving the timber resources of the Colony and preventing the destruction of the best species of brush and hardwood¹.

The enactment of the first *Forestry Act* occurred in 1909, establishing a Forestry Department. In 1916, the Forestry Commission of NSW was established, and in 1992 the Forestry Commission was re-constituted as a public trading enterprise.

In 2012, Forestry Corporation was established as a State-Owned Corporation (SOC) under the *Forestry Act 2012*. The Corporation has been charged with a number of equally important objectives under the Act:

- to be a successful business and, to this end, to operate at least as efficiently as any comparable business and to maximise the net worth of the State's investment in the corporation
- to have regard to the interest of the community in which it operates
- where its activities affect the environment, to conduct its operations in compliance with the principles of ecologically sustainable development
- to contribute towards regional development and decentralisation
- to be an efficient and environmentally sustainable supplier of wood from Crown-timber land and land owned by it or otherwise under its control or management.

Today, Forestry Corporation is the largest manager of commercial native and plantation forests in NSW, and is accountable for financial performance to the Treasurer and the Minister for Finance, who act as shareholders for and on behalf of the NSW Government. Forestry Corporation is also appointed as a land manager on behalf of the NSW Government, a responsibility that is overseen by the Minister for Lands and Forestry.

Financial performance is reported in our Annual Report, which is independently audited and is provided to our shareholders for tabling in the NSW Parliament and published on our website.

GOVERNANCE

MANAGEMENT FRAMEWORK

ESFM – INTERNATIONAL AND NATIONAL CONTEXT

Australia attended and was a signatory to the United Nations Conference on Environment and Development, Rio de Janeiro in 1992. It was at this conference that governments recognised the need to redirect international and national plans and policies to ensure that all economic decisions fully took into account any environmental impact. The Earth Summit resulted in *Forest Principles*² which resulted in the Montreal Process³. It is a voluntary agreement on sustainable forest management. Australia was a member country of the Montreal Process.

The criteria and indicators agreed to at the Montreal Process provide a common framework to describe, monitor, assess and report on national forest trends and progress towards sustainable forest management. They aim to provide a common understanding of what is meant by sustainable forest management. There are seven criteria that characterise the essential components of sustainable forest management.

The Australian, state and territory governments are all signatories to the 1992 National Forest Policy Statement (NFPS), a statement which embodies the Montreal criteria in Australia. The management of Australia's forests is guided by the NFPS, providing a framework within which governments work cooperatively to achieve sustainable management of Australia's forests. The NFPS identifies protection of the full range of forest ecosystems and other environmental values

¹ These reserves were proclaimed under regulations issued on 14 December 1866 (NSW Government Gazette 14 December, 1866 p. 3076)

² The Forest Principles is the informal name given to the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (1992). It is a non-legally binding document that makes several recommendations for conservation and sustainable development forestry.

³ Also known as the Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests



as being fundamental to ecological sustainability. This entails the maintenance of ecological processes, biodiversity and the protection of water quality.

The NFPS outlines agreed objective and policies for the future of Australia public and private forests. The goal of the NFP include maintaining an extensive and permanent native forest estate while developing ecologically sustainable timber production and an internationally competitive timber products industry. As they developed the NFPS, the commonwealth and State governments considered:

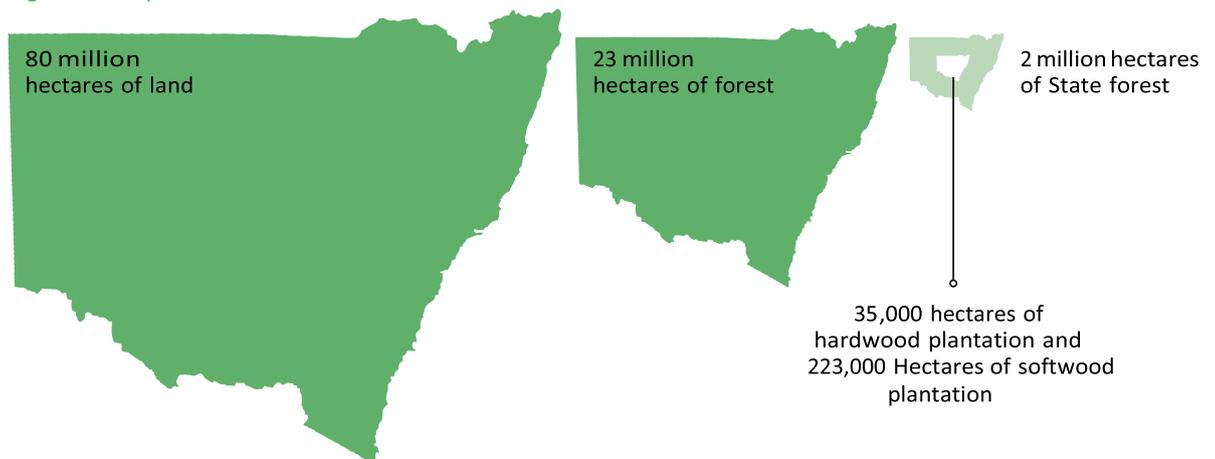
- The many values that forests contain
- The suite of ecological processes in the forest that sustain life
- The function of forests in providing habitat for diverse range of flora and fauna, and
- The contribution that forest based activities make to the economy and employment.

In addition, the Western forests of Campbells Island, Koondrook and Perricoota State forests are included on the list of Wetlands of International Importance kept under Ramsar Convention. The Australian Ramsar management principles are embodied in the Forest Management Plan for those forests.

FRAMEWORK OF PUBLIC FOREST GOVERNANCE IN NSW

Around 34 percent of the total area of NSW is forested. Within the total forested area, there are 2 million hectares of State forests, including approximately 200,000 ha of softwood plantations (*Figure 5*).

Figure 5: Proportion of State forests in NSW



Within Western Region the NSW government has conducted regional assessments under the Forestry and National Park Estate Act (1998). These assessments covered the Brigalow Nandewar (2002), and forest assessments for Riverina Red Gum (2009) and South-Western cypress (2010) areas. The outcome of these assessment processes where the development Integrated Forestry Operations Approvals (IFOA) for each of the above areas.

The IFOAs form the regulatory backbone for forestry management in NSW State forests. Each IFOA integrates licences from the *Threatened Species Conservation Act 1995*, *Protection of the Environment Operations Act 1997* and the *Fisheries Management Act 1994* that prescribe a range of environmental protection requirements that directly influence the undertaking of Forestry Corporation activities.

FORESTRY CORPORATION GOVERNANCE AND MANAGEMENT STRUCTURE

Forestry Corporation came into being on 1 January 2013, when the former Forestry Commission of NSW trading as Forests NSW was corporatised.

Forestry Corporation operates under the direction of a skilled commercial board, which is constituted under the *Forestry Act 2012* and accountable to the voting shareholders in line with the *State-Owned Corporations Act 1989*.

The corporation's senior management team consists of the CEO and five (5) divisional managers heading up Hardwood Forests, Softwood Plantations, Corporate Resources, Finance & Technology and Human Resources.



Each year, Forestry Corporation enters into an agreement with the shareholders known as the Statement of Corporate Intent, which details the objectives and strategic direction of the business, along with financial performance targets and other related matters, such as risk management.

Forestry Corporation operates under a corporate business strategy that is reviewed annually and provides staff with a clear set of organisational goals and objectives.

INDEPENDENT FOREST MANAGEMENT CERTIFICATION

Hardwood Forests Division is independently certified to the Australian Standard for Sustainable Forest Management (AS4708:2013) and the international environmental management system standard AS/NZS ISO 14001:2015 (ISO 14001). This dual certification provides objective assurance to our customers and stakeholders that we are sustainable and effective forest managers.

Certification to the Australian Standard for Sustainable Forest Management also allows end users to identify certified wood at the time of purchase, providing customers with a guarantee that the wood they are buying has been grown and harvested legally from sustainably managed forests.



Management Focus Area: to maintain certification under the Australian Standard for Sustainable Forest Management and ISO14001.

POLICY

Forestry Corporation has a Forest Management Policy, which outlines our commitments to conserving and advancing a range of forest values such as biodiversity, forest productivity and carbon sequestration in keeping with the principles of sustainable forest management. The policy is delivered through the Forest Management System and is available on our website.

FOREST MANAGEMENT SYSTEM

Forestry Corporation is committed to managing timber resources in an ecologically sustainable way.

The FMS is a framework of policies, processes and procedures that guide day-to-day operations by outlining how we will plan operations, implement procedures, audit and report operations and review performance to achieve sustainable forest management.

The development, implementation and continuous improvement of the FMS is overseen by the Senior Management Team and supported by an implementation committee to ensure it remains relevant to business operations.

Our FMS is the framework of policies, processes and procedures that we use to ensure we undertake the activities required to achieve sustainable forest management and carry out our operations in a sustainable manner (refer to Figure 1).

The FMS ensures we have:

- objectives and targets for achieving ESFM that can be tracked and reported upon
- controls in place to minimise any negative impact on the environment
- a process to identify and resolve issues of concern and continuously improve our operations
- regular audits of what we do and how we do it to ensure our activities and systems comply with regulations and are best practice
- a process to review the performance of our management systems and processes.

It also ensures that State forests are managed according to adaptive management principles.

Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operations and ensuring that our systems and processes allow us to identify and respond to changing circumstances.



LEGAL AND OTHER REQUIREMENTS

Forestry Corporation has a systematic approach to identifying and complying with legal and other requirements. The *Forestry Act 2012*, the *Plantation and Reafforestation Act 1999* and Regulation, the *Rural Fires Act 1994* and the IFOAs which incorporate licences under the *Protection of the Environment Operations Act 1997*, the *Biodiversity Act 2016* and the *Fisheries Management Act 1994* are the main legislative frameworks governing management of the State forest estate. These frameworks require high levels of transparency, documentation and accountability.

Changes to legislation and other relevant requirements are identified, analysed and then communicated to staff and contractors.

RISK MANAGEMENT

Forestry Corporation uses a risk management framework based on Australian Standards. This framework ensures we have robust processes for identifying and documenting significant risks, putting the appropriate mitigation measures in place and reviewing these annually.

The Audit and Risk Committee of the Board is responsible for ensuring Forestry Corporation appropriately discharges our responsibilities by overseeing and reviewing:

- financial reporting
- risk management
- debt structure and debt instruments
- accounting policies
- major capital expenditure proposals
- business ethics policies and practices
- internal controls
- compliance with taxation and other applicable laws and regulations
- integrity and performance of the internal audit function.

Forestry Corporation has risk management guidelines, which outline the processes used to identify, assess and prioritise risks, as well as risk mitigation and monitoring processes. A central risk management software system is in place to report, record and manage incidents, hazards and near misses.

Forestry Corporation manages a range of risks to mitigate any potential social, environmental, technological, safety, financial, reputation and security consequences. Forestry Corporation regularly reviews its operations to ensure that activities that may have significant risks are identified and appropriate mitigation strategies are implemented.

Management Focus Area: to identify and manage risks in all operations to meet or exceed expected environmental outcomes.

OPERATIONS

The FMS is tailored to the distinct requirements of each of Forestry Corporation's two operational divisions (Hardwood Forests and Softwood Plantations).

Key activities that are undertaken by the Hardwood operational division includes:

- wood harvesting
- weed and pest control
- plantation establishment and tending
- fire hazard management and wildfire suppression
- grazing management
- road construction and maintenance
- water management (River Red Gum forests)

These activities are undertaken with specific controls that aim to minimise the risks.



PLANNING

Forestry Corporation completes long-term, medium-term and short-term planning to ensure that we maintain wood supply for future generations while meeting current contractual commitments. We also complete detailed site-specific and activity-specific planning to ensure each operation is carried out in an environmentally sustainable manner and takes into account the needs of forest users and the local community.

Forestry Corporation uses scientific models to project wood supply over the long term. These models look at estimated yields over 100 to 150 year periods and are based on long-term research studies using inventory data to verify projected results.

Medium-term planning focuses on determining which forests and compartments will be harvested to meet our wood commitments over the next two to five years. This planning details the preparation required, such as road upgrades, and facilitates engagement with stakeholders. Our medium-term planning describes the forest estate and values to be managed, providing the rationale for harvesting rates and silvicultural regimes, and refers to relevant operating conditions and controls for specified activities.

Each of the two operating divisions prepares an annual schedule of operations to guide day-to-day business activities.

Detailed, site-based operational plans are prepared for each forestry activity and act as a blueprint for implementing the activity by staff and contractors.

MONITORING AND AUDIT

The FMS encapsulates a system of monitoring, auditing and reviewing processes, which allows for continuous improvement and adaptive management. Recommendations from monitoring, audits and reviews are incorporated into corrective actions to improve the FMS over time. Further information is provided in the governance section of this plan.

Forestry Corporation carries out monitoring and auditing through:

- targeted environmental compliance monitoring in areas of known high risk, such as exclusion area boundaries and drainage feature crossings
- external compliance audits
- internal audits and reviews
- maintaining an up-to-date risk register, as well as complaints and incident registers.

Our compliance monitoring system sets out our monitoring processes. Ongoing monitoring is particularly targeted at key areas including the volume of timber products harvested and the area harvested, which are closely compared against predicted yields every quarter so anomalies can be investigated. Active forest operations are visited regularly to identify and record any non-compliance with the operational conditions, which forms an important part of the continuous improvement cycle. Whenever a non-compliance is identified:

- the incident is investigated and the cause of the non-compliance is established
- corrective actions are instigated where appropriate
- improvements are made to prevent reoccurrence.

Audit plans detail the regularity of reviews, as well as the intensity of monitoring any non-conformances and complaints. This is complemented by a rolling three-year internal audit schedule for the Australian Standard for Sustainable Forest Management criteria, involving reviews of different elements of the standard by a qualified environmental auditor.

Internal audits are independent and objective reviews that:

- provide assurance that our financial and operational controls are operating in an efficient and ethical manner and effectively managing risks
- identify opportunities to improve performance.

Forestry Corporation is also subject to external regulator audits by a range of parties including the NSW Auditor General (financial), regulatory agencies such as Environment Protection Authority and the Department of Primary Industries' (DPI) Plantation Assessment Unit and Responsible Wood, a not-for-profit public company which owns and manages the Australian Forest Certification Scheme.



MANAGEMENT REVIEW

Management review is the process of regularly reviewing whether the FMS is performing as planned. Every level of management in the operational divisions conducts periodic reviews of incidents, hazards, near misses and complaints to ensure corrective action plans are implemented as planned and deliver the intended result.

This process ensures the integrity, suitability, adequacy and effectiveness of the FMS is understood by all levels of management.

DRIVING CONTINUAL IMPROVEMENT

Continual improvement is the underlying aim of the FMS. The AFS and ISO14001 standards require certified organisations to adopt systematic processes to identify risks, develop controls, review outcomes and undertake corrective action where required. These processes apply across all activities in the organisation where there are identified risks that require management.

One of the key areas in HFD for driving continual improvement is in the management of wood harvesting activity. Wood harvesting carries with it numerous risks that are managed through training, hazard identification, operational planning, supervision, monitoring, auditing and reporting. The ongoing development of systems and processes to improve in areas such as environmental compliance, safety and wood utilisation is very important in ensuring ESFM outcomes and the reason for a significant focus in this area by HFD.

Forestry Corporation, undertakes quarterly reviews of Timber Licensees and their operations to assess performance and provide a means by which Forestry Corporation can highlight areas for improvement, or enforce compliance action if required.

Management Focus Area: to ensure compliance monitoring is consistently undertaken across HFD and that continual improvement underpins management systems.

PUBLIC REPORTING AND AVAILABILITY OF INFORMATION

Forestry Corporation publishes a range of reports in line with its obligations as a State-Owned Corporation and under the Regional Forest Agreements, NSW Forest Agreements and NSW IFOAs. These reports provide transparency and accountability and measure our performance against ESFM commitments made under the various agreements and licence conditions. We also make a summary of Australian Standard for Sustainable Forest Management and ISO 14001 audit reports publicly available, providing independent verification that we continue to meet the requirements of these standards.

Key publications in which Forestry Corporation reports the outcomes of its activities include:

- Forestry Corporation Annual Report available on the website
- FA/IFOA Reports available from the EPA's website.

In addition, information is available on the Forestry Corporation website about operational activities, including individual harvest plans and the 12-month harvesting Plan of Operations.

To provide feedback on this FMP, Forestry Corporation makes available through its website an opportunity to provide comment which will be taken into consideration in future reviews.

LEGAL REQUIREMENTS

Forestry Corporation maintains a Compliance Register of legal and other requirements that is relevant to the conduct of its activities which is reviewed and updated periodically.

EMERGENCY RESPONSE

Forestry Corporation has obligations as a land manager and as a manager of staff and contractors to ensure that emergency response procedures are in place. Accordingly, procedures are in place for:

- fire preparedness
- pollution incident response, including management plans required under the Environment Protection Licences
- biosecurity.



ASSET AND FOREST ESTATE PRODUCTIVITY

Forestry Corporation is committed to maintaining a sustainable wood supply. The NFPS supports this commitment by identifying ecologically sustainable wood production and the development of an internationally competitive wood products industry as broad national goals for native forests in Australia.

During the CRA process, the Forestry Corporation (then Forestry Commission of NSW) developed the Forest Resource and Management Evaluation System (FRAMES). It focuses on modelling the long-term sustainable supply of high quality logs and is used as a strategic planning tool to inform where and when operations should take place across the State forest estate. The system has been continually improved and is still used today.

In meeting its obligations to provide an ecologically sustainable wood supply, Forestry Corporation will:

- maintain its contribution to a CAR reserve network of dedicated reserves, informal reserves, and values protected by prescriptions which exclude harvesting (*see Our environment*)
- adhere to a system of adaptive management in planning, implementing and monitoring of harvesting to protect rare or threatened flora and fauna and their habitats along with soils and water quality (*see below and Our environment*)
- maintain forest cover by using appropriate silviculture during harvesting and ensure natural regeneration or rehabilitation where appropriate (*see below and Our environment*)
- periodically review wood availability and supply commitments based on performance monitoring and improvement of yield models.

Forestry Corporation aims to maximise the potential for growth and development of commercial timber and timber based products on the areas of forest available for wood production, while maintaining a firm commitment to manage State forests in a socially and environmentally responsible way.

NATIVE FORESTS

FOREST TYPES AND SILVICULTURE

Forest vegetation communities are classified into forest types. The composition of a forest type is driven by site characteristics such as rainfall, soil properties, altitude, aspect, and management and disturbance history. Variation in these elements has resulted in a range of forest types across the landscape, which in turn influences the type of silviculture that will be appropriate in wood harvesting operations in different locations.

State forests covered by this plan are found from the top of the Great Dividing Range to Cobar in the State's west, from the Queensland border to the Victorian Border. They cover a very wide array of environmental gradients; low woodland to tall forest, dry to moist habitats, flat to mountainous terrain, low to high annual rainfall and significant north south differences (e.g. rainfall distribution from summer dominant to winter dominant). The forests and woodland contain a wide range of successional ecological stages over many types of forest ecosystems. They include areas dominated by mallee, white cypress, box species, ironbarks, river red gum, stringybarks and tableland hardwoods, interspersed with patches dominated by bloodwoods, belah, bull oak, angophoras, gums and broombush. Some patches of less common ecosystems also occur.

All silviculture undertaken by Forestry Corporation aims to maintain the species composition that is on site by applying silvicultural techniques that mimic natural disturbance and work with the natural regeneration processes of the species comprising the forest.

The Forestry Corporation Native Forest Silviculture Manual outlines the ecological principles driving forest dynamics and describes forest events such as harvesting and fire fuel management.

The manual describes how to assess the condition of the forest on a site-specific basis and formulate the appropriate silvicultural approach for regeneration (restarting the stand) or growth (retaining trees to grow on for the future). The IFOAs specify further constraints that apply to harvesting and silviculture, such as, the scale or extent of harvesting, basal area limits and habitat tree retention requirements, which ensure that ecological outcomes are achieved.

Forestry Corporation applies appropriate site specific operational controls such as, plan inductions, marking of trees in field and mapping of important features to ensure that the required silviculture and regulatory outcomes are achieved.

There are a range of factors not related to the stand itself that are also considered in planning all wood harvesting activities, including:

- remoteness of the forest and the cost of road access
- size of the harvest area and potential wood volumes being harvested
- wood markets available, particularly for low grade products.



The aim of the silvicultural planning process undertaken by Forestry Corporation is to find a balance that delivers a sound outcome for the forest (at the stand and landscape level), and its ecological and production values, for the wider community and for the business interests of the organisation.

RIVER RED GUM

River Red Gum is relatively fast growing where access to water is not restricted. Regeneration occurs mainly from seed, whenever sufficient light, space and moisture exist. Flooding provides the best stimulus for regeneration, although appropriately managed ground disturbance and fire will also stimulate germination. The main threat to seedling survival is a lack of soil moisture during the first summer following germination.

With the completion of the Koondrook-Perricoota Flood Enhancement Project, active water management provides an opportunity to promote regeneration while contributing to the growth of established stands within the watering footprint of these forests. In areas of river red gum forest where inadequate regeneration exists, opening the canopy through tree removal may be undertaken. Thinning of river red gum advanced regeneration also facilitates improved health and the growth of the retained stand particularly during periods of extended drought. In the absence of thinning, widespread tree stress and death is common during extended periods of drought.

The Integrated Forest Operations Approval for Riverina Red Gum (IFOA) prescribes the types of silviculture permitted in these forests to optimise the supply of timber in a long term ecologically sustainable manner.

WHITE CYPRESS

White Cypress (*Callitris gaucophylla*) has a widespread natural distribution extending from central western Queensland, through NSW to Victoria.

White Cypress has a number of characteristics which sets it apart from other commercially important Australian timber species. These include:

- an ability to regenerate prolifically from seed at stocking rates of many thousands per hectare under favourable climatic conditions
- it is fire sensitive
- it is highly tolerant of competition and the species is prone to 'lock-up'.

Active management through the use approved silvicultural practices optimises both yield and size of sawlogs produced from Cypress forests. To optimise timber production and maintain a healthy functioning forest ecosystem requires:

- early thinning of regeneration to a predetermined stocking and basal area to minimise competition and avoid 'lock-up'
- one or more thinnings to further reduce competition and reduce competition on retained stems and create an open canopy to encourage the next wave of regeneration.
- once regeneration is well established a harvest to release the young regeneration from competition with the mature trees.

In many western forests white cypress is a component of mixed species stands that include other trees such as eucalypts and casuarina and there may be a range of circumstance requiring harvesting to be limited, excluded or modified. For example, tree retention to ensure diversity of stand structure.

The western hardwood and tableland forests, like the river red gum and white cypress forests, have also been managed for timber production for long periods. As with most eucalypts, seed production of the boxes, ironbarks and tableland hardwoods will be influenced by crown class with the dominant stems usually the best producers and fire damaged crowns poor producers. Regeneration will usually appear in gaps created by logging or other disturbance events such as fire or storm damage. The composition of regeneration these forests usually reflects the species make-up of the original stand.

The requirements and constraints of the respective IFOA are applied to the type and intensity of silviculture practices that can be applied to Western Forests.

MAINTAINING LOCAL GENE POOLS

The silviculture Forestry Corporation applies for regeneration harvesting events in native forests will always involve retention trees that are capable of producing seed in situ. Also, trees retained in accordance with the requirements prescribed by the IFOA also serve the purpose of providing a seed source. Where specific requirements for seed tree retention are determined through the harvest planning process they will be documented in the operational harvest plan.

Supplementary planting is not undertaken in Western Forests.



NATIVE FOREST REGENERATION

Assessing the success of regeneration is an important aspect of maintaining the productive capacity of native forests. Obligations on the assessment of regeneration are contained in the IFOAs. In meeting its commitments to ensure adequate stocking is maintained following harvesting, Forestry Corporation undertakes:

- appropriate pre-planning of harvesting operations to identify potential barriers to the establishment of regeneration
- silviculture that is tailored to the requirements of the site and is documented in the operational harvest plan
- compliance monitoring of harvesting operations to ensure that silviculture objectives are achieved
- regeneration assessments, in accordance with our regeneration assessment procedure
- broadscale forest health surveys in conjunction with NSW DPI Forest Science group.

A characteristic of the commercial western timber species, particularly white cypress (*Callitris glaucohylla*) and river red gum (*Eucalyptus camaldulensis*) is the episodic nature in which they regenerate. Unlike coastal tree species that rely on soil disturbance and/or fire to trigger regeneration, white cypress and river red gum are fire sensitive and their regeneration is triggered by high soil moisture conditions. For example, in the case of white cypress significant regeneration events coincided with years of high rainfall 1880-1905, 1952-6 and 2010-11. Similarly, significant regeneration events of river red gum have been recorded in during the flood years of 1956, 1974, 1992-93 and 2010-11.

Management Focus Area: maintain the productive capacity of the forest estate.

ROAD AND INFRASTRUCTURE NETWORK

An extensive road network on State forests has been constructed progressively since the early twentieth century and maintained and upgraded as required. HFD will maintain the road network to:

- minimise the risk of water pollution
- ensure harvested wood can reach the mill in a cost effective and reliable manner to meet customer commitments
- maintain adequate access for fire protection and management
- provide appropriate public access.

In managing its road network Forestry Corporation:

- meets the requirements of the IFOA
- has due regard to the needs of harvesting traffic, public safety, state of repair and potential for environmental harm in determining which roads will be available for public use
- provides other services to the public such as access for recreation and tourism as a community service obligation (CSO).

The following broad strategies are used to minimise the risks associated with road building and maintenance:

- identifying future network requirements and any major new construction of roads that may be necessary through the tactical and strategic planning processes and incorporating these into annual schedules of work
- providing and maintaining a road network to assist with fire suppression and management
- ensuring the workforce is trained, competent and accredited where required
- developing, implementing and monitoring conformance with operational plans for road works.

Management Focus Area: minimise the pollution risk from forest roads and trails.

STRATEGIC WOOD SUPPLY PLANNING

Strategic wood supply planning is undertaken using the Forest Resource and Management Evaluation System (FRAMES). The FRAMES model informs strategic planning processes and decision making in NSW State forests. The system was



developed within the framework of the CRA process in 1997 and has been subject to revision, both internally and by independent external experts, since this time.

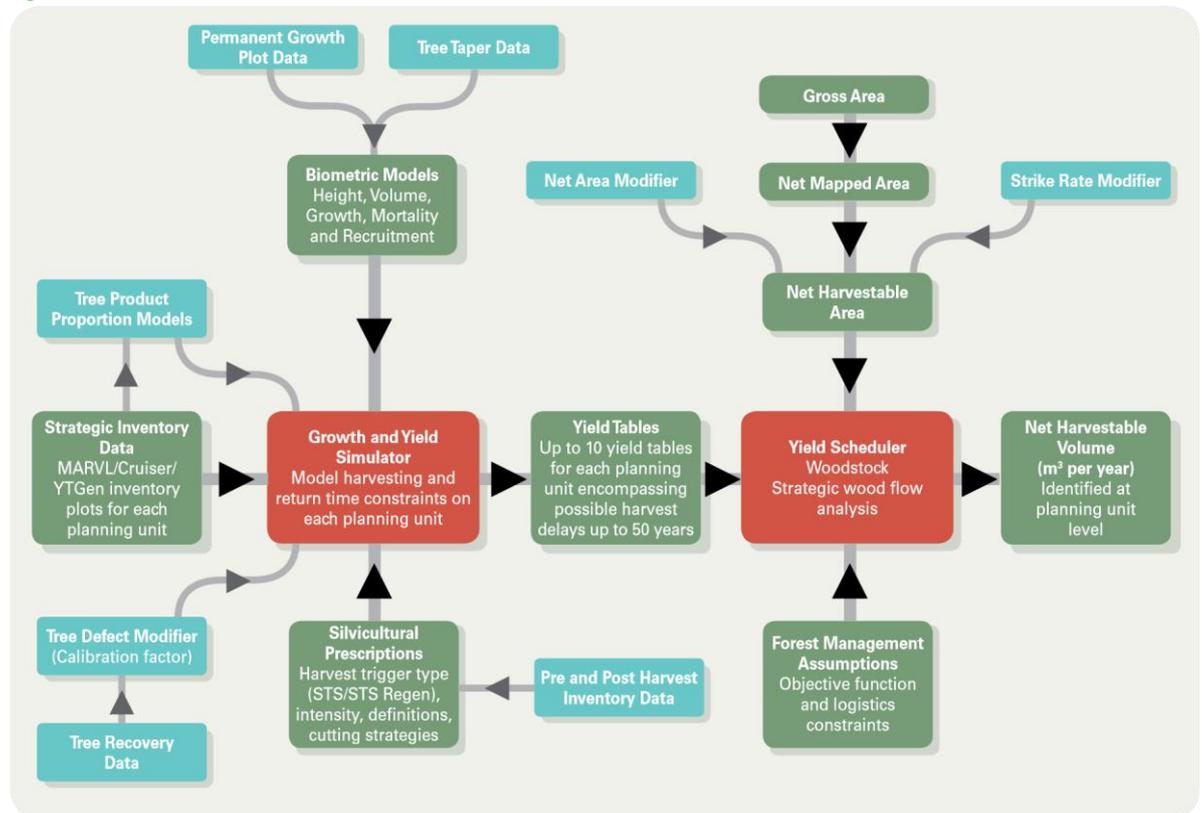
The key purpose of FRAMES is to model the availability of high quality sawlogs. During the CRA process, this was considered when assessing whether land was allocated for production or conservation. Subsequently, the model has been used for ongoing growth and yield modelling in native forests.

FRAMES¹ comprises:

- An estimation of net harvestable area – the gross area is determined and systematically reduced to account for mapped features such as streamside buffers, high conservation value forests, wetlands, rocky outcrops, steep areas, heaths and mapped species-specific exclusion areas. Modifiers are then applied to account for un-mappable exclusions such as threatened species prescriptions and buffers on buffers.
- Assessment using field-based inventory plots – plots, which are a mix of 0.1 and 0.06 hectares in size, are measured across the forest landscape using systematic random sampling. All trees greater than 10 centimetres in diameter over bark are measured and a record is made of the Diameter at Breast Height Over Bark (DBHOB), species, height of key trees in the plot and potential wood product using a peer reviewed scientific method.
- Growth and yield simulation – using a number of models that address stand and tree growth, mortality, recruitment, tree volume and taper, proportioning of trees into log products and modifiers that account for harvesting practices.
- Yield scheduling – uses forest modelling software to determine the level at which logs from within an identified portion of the forest estate are appropriate to harvest each year.

The generalised information flow through the FRAMES system is depicted schematically in the Figure 6.

Figure 6: FRAMES information flow



¹ The system is described in the Forestry Corporations Forest Resource and Management Evaluation System (FRAMES): A report on its development and implementation to 31 July 2013.



SUSTAINABLE WOOD VOLUME AVAILABILITY

For the purpose wood flow calculations, forest resources are grouped - by IFOA areas. These management areas are outlined in Figure 7 below.

Each IFOA specifies a maximum harvestable volume for the species authorised to be cut. These volumes for timber products were set following negotiations informed by modelling and inventory undertaken both by FCNSW and by independent external sources. These maximum allowable cuts are summarised in the table below.

The Western IFOA's are scheduled for review during 2019 as part of the NSW Governments Forest Industry Road map.

Table 3: Western Region maximum allowable cut

IFOA	Species	Product	Period Cap m ³	Annual Cap m ³
Brigalow/Nandewar ¹	White cypress	logs (any kind & quality)	716,492 ²	57,000
	Western Ironbark trees	logs (any kind & quality)	35,648 ²	2870
	Other species	logs (any kind & quality)		1500
	Any species	timber products		1500
	Western Ironbark trees, Bull Oak and White Cypress	firewood	65,000 ³	9100
South West Cypress ⁴	White Cypress (South of Mitchell Hwy)	logs (any kind & quality)	328,895 ⁵	31,346
	White Cypress (North of Mitchell Hwy excluding Western Land Leases)	logs (any kind & quality)	43,500 ⁵	
	White Cypress	timber products		5000
	White Cypress and Bull Oak	residue	na	-
	White Cypress (Western Land Leases)	logs (any kind & quality)	25,000 ⁶	-
Riverina Red Gum ⁷	Red Gum	high quality large	90,253 ⁸	-
	Red Gum	low quality	na	-
	Red Gum	residue (State forests)	269,571 ⁸	-
	Red Gum	residue (early thinnings State forests) ⁹	159,165 ¹⁰	-
	Red Gum	residue (western lands leases -dry)	410,000 ⁵	-
	Red Gum	residue (Western land leases -green)	236,250 ⁵	-

1 Expires 31 December 2025

2 Period 17 years

3 Period 10 years

4 Expires 31 December 2025

5 Period 14.5 years

6 Expires 30 June 2018

7 Expires 31 December 2030

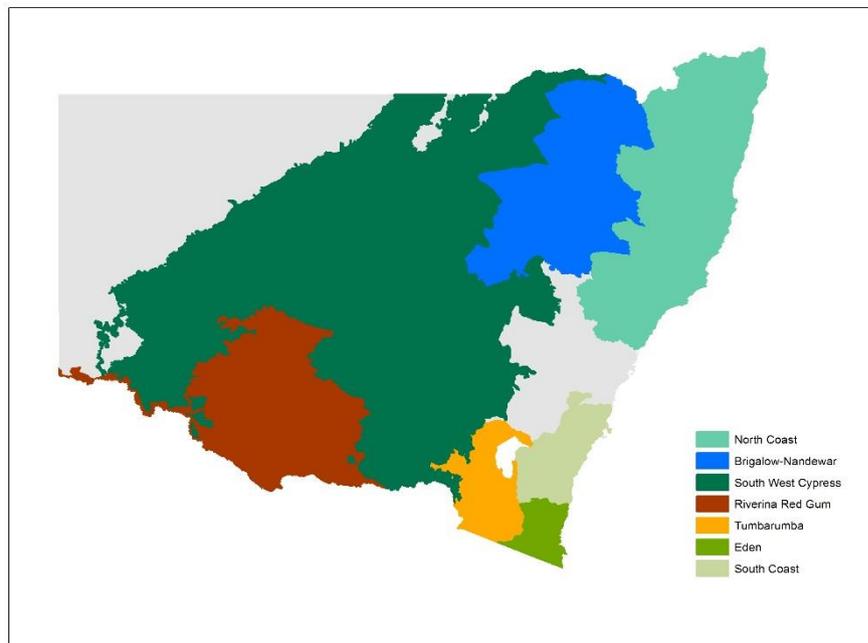
8 Period 20 years

9 Expires 30 June 2019

10 Period 6 years



Figure 7: Strategic Planning Regions



WOOD SUPPLY COMMITMENTS

Forestry Corporation and the NSW Government have Wood Supply Commitments (WSA) with commercial customers that are made in line with the NSW RFAs and FAs. The WSAs are managed as commercial contracts by Forestry Corporation and are subject to change from time to time. Wood supply commitment volumes are often below the sustainable levels described above due to limitations of timber markets available at a given point of time in the region.

In negotiating WSAs, the Government sought to utilise all sizes and quality of sawlogs. The timber volumes currently available for harvest under the Western IFOA's are detailed in Table 4 below.

The current WSAs are published on Forestry Corporation's website.

Table 4: Western Region Wood Supply Agreement commitments(annual) (as at 1 July 2018)

Product		Annual WSA Volume m3
High quality sawlogs	Red Gum	4,413m ³
	Cypress	25,390m ³
Low quality sawlogs	Red Gum	4,178m ³
	Ironbark	1,125m ³
Residue logs	Red Gum	86,140m ³ ¹
	Cypress	11,865m ³
	Ironbark	4,875m ³
Total volume		137,986m³

¹ Includes residue logs from Western Lands Leases.



TACTICAL PLANNING

Tactical planning refers to the specific process involved in developing and verifying the harvesting plan of operations. The aims of the tactical planning process are to:

- determine accessible wood volume by product and species for a given planning unit and provide a verified order of work two years in advance of operations
- identify environmental, road network or other constraints likely to require further work or investigation
- provide harvest planners with information about wood volume, access and environmental or stakeholder concerns to inform the detailed harvest planning process.

Tactical planning is one of the ways in which Forestry Corporation seeks to identify potential risks that can have an adverse effect on the environment or business and to allow time to develop and implement contingencies and mitigation strategies.

Management Focus Area: to maintain continuity of wood supply by ensuring timely and thorough tactical and strategic planning.

ANNUAL SCHEDULES

Annual schedules or programs are the means by which Forestry Corporation plans activity in alignment with customer and budget cycles. An annual schedule is usually a list of priority areas for a given financial year and forms part of the budget process. Annual schedules also enable the tracking and reporting of progress and are developed for:

- harvesting, in the form of a plan of operations that is verified for volumes and species and takes into consideration the requirements of customers, markets and weather-related constraints
- road construction and maintenance, which are determined in accordance with road and fire trail management plans. Roads required for harvesting are closely aligned with the harvesting plan of operations, while other road works will be scheduled according to the level of usage, potential for environmental harm, safety and the requirements of forest users
- fire fuel management, where the details of proposed hazard reduction burn areas are entered into the RFS fire management system and available to the District Bush Fire Management Committee. The schedule is influenced by the need for asset protection within and near State forests, ecosystem management and the desire to reduce excessive fuel loads before or after harvesting
- pest and weed control, which meet regulatory obligations, address concerns of stakeholders and outline priorities.

FORESTRY ACTIVITY PROCESS MAPPING

Forestry Corporation has developed a series of process maps designed to identify all the key activities undertaken in the planning of forestry activities. They are used as a means of ensuring that important aspects of the planning process, such as environmental compliance, consultation with stakeholders and appropriate communication within Forestry Corporation, are completed.

OPERATIONAL PLANNING

Forestry Corporation recognises that there is potential for forest management to impact the environment and affect ecological sustainability and operational planning. The FMS is driven by efforts to manage and minimise this risk.

The IFOA represents an integration of the regulatory regimes for environmental planning and assessment of forestry operations, for protection of the environment and for threatened species conservation¹.

Forestry Corporation has developed a risk register to assist in identifying potential risks and ensure that controls are developed to mitigate significant risks. Operations with the greatest potential environmental risk are:

- wood harvesting involving tree felling, log extraction and log haulage
- road construction and maintenance, particularly drainage feature crossings and side cuts on steep side slopes



- fire management, including hazard reduction burning, particularly in ecologically sensitive habitats and streamside buffers.

Operational planning for forestry activities ensures a range of measures are applied to mitigate the risks, including:

- implementing forest practice codes and SOPs during native forest wood harvesting and for road and drainage feature crossing management
- using operational plan templates that have been developed to address key risks and are designed to ensure plans include site specific instructions and approve and guide the activity while protecting natural and cultural environment values
- applying adaptive management principles in all forestry operations and in every part of the continuous improvement cycle¹
- auditing operations to monitor compliance with plan conditions and, if a non-compliance is identified, undertaking remedial works and recurrence prevention measures where necessary
- reporting results and incorporating them into subsequent planning and implementation processes. Any new risks identified are captured in Forestry Corporation's risk management system and control measures developed and implemented.

Other operations that have lesser potential for environmental impacts have been recognised and addressed in other parts of this plan or in supplementary plans. These include:

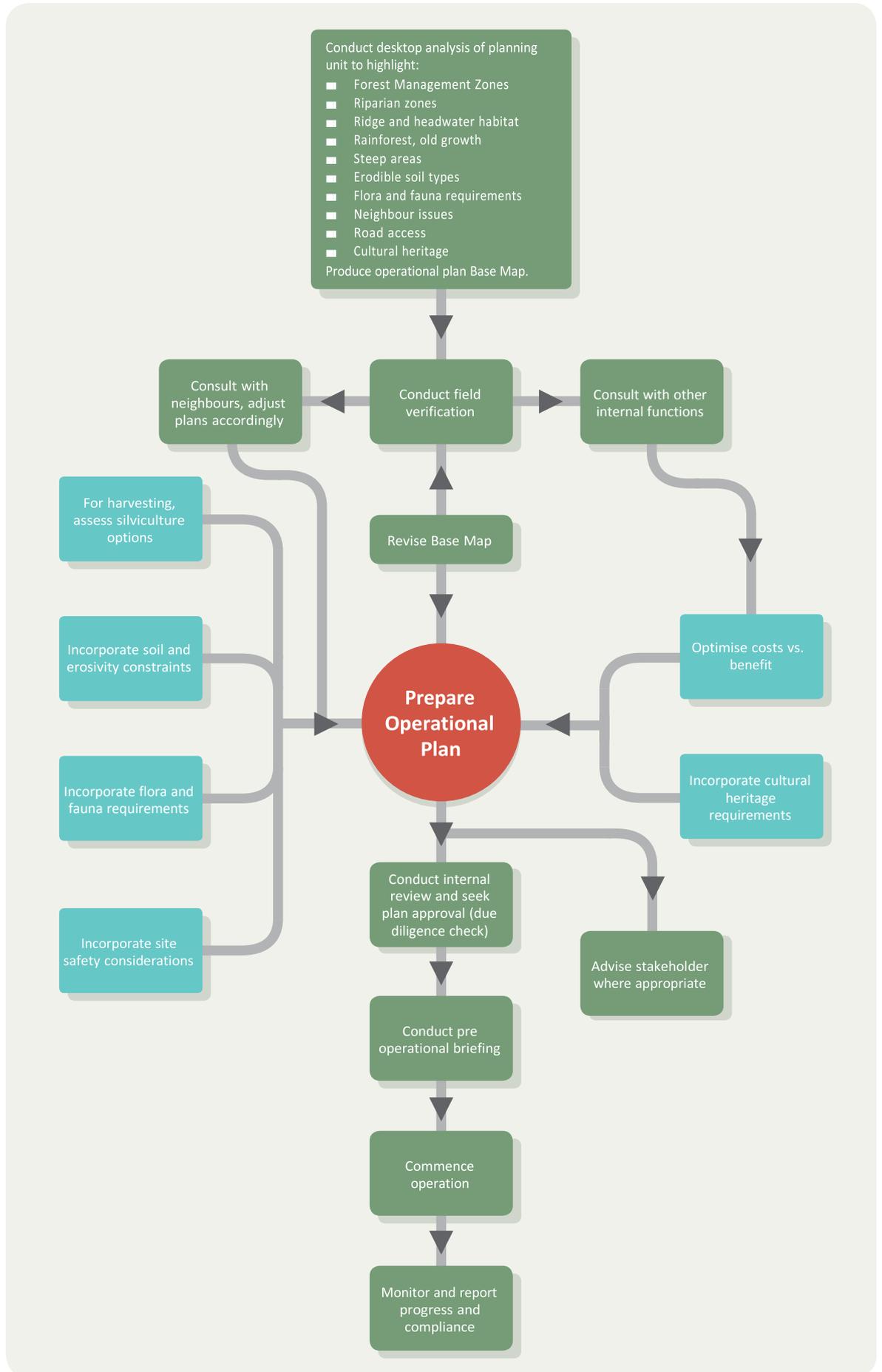
- forest regeneration and rehabilitation operations (*see Forest Ecosystem Health*)
- recreation facility construction and maintenance (*see Services and Facilities*)
- response to chemical spills, disease and wildfire (*see Forest Ecosystem Health*)
- collection of forest products and materials (*see Services and Facilities*)
- pest animal control (*see Forest Ecosystem Health*)
- weed control (*see Forest Ecosystem Health*)
- grazing (*see Services and Facilities*)
- apiary (*see Services and Facilities*).

The flow chart in Figure 8 illustrates the process of developing and implementing an operational plan.

¹ Continuous improvement in Forestry Corporation is based on the environmental management system model for ISO 14001 as indicated in the FMS.



Figure 8: Generalised operational planning process



Draft for consultation



THE MAKE-UP OF OPERATIONAL PLANS

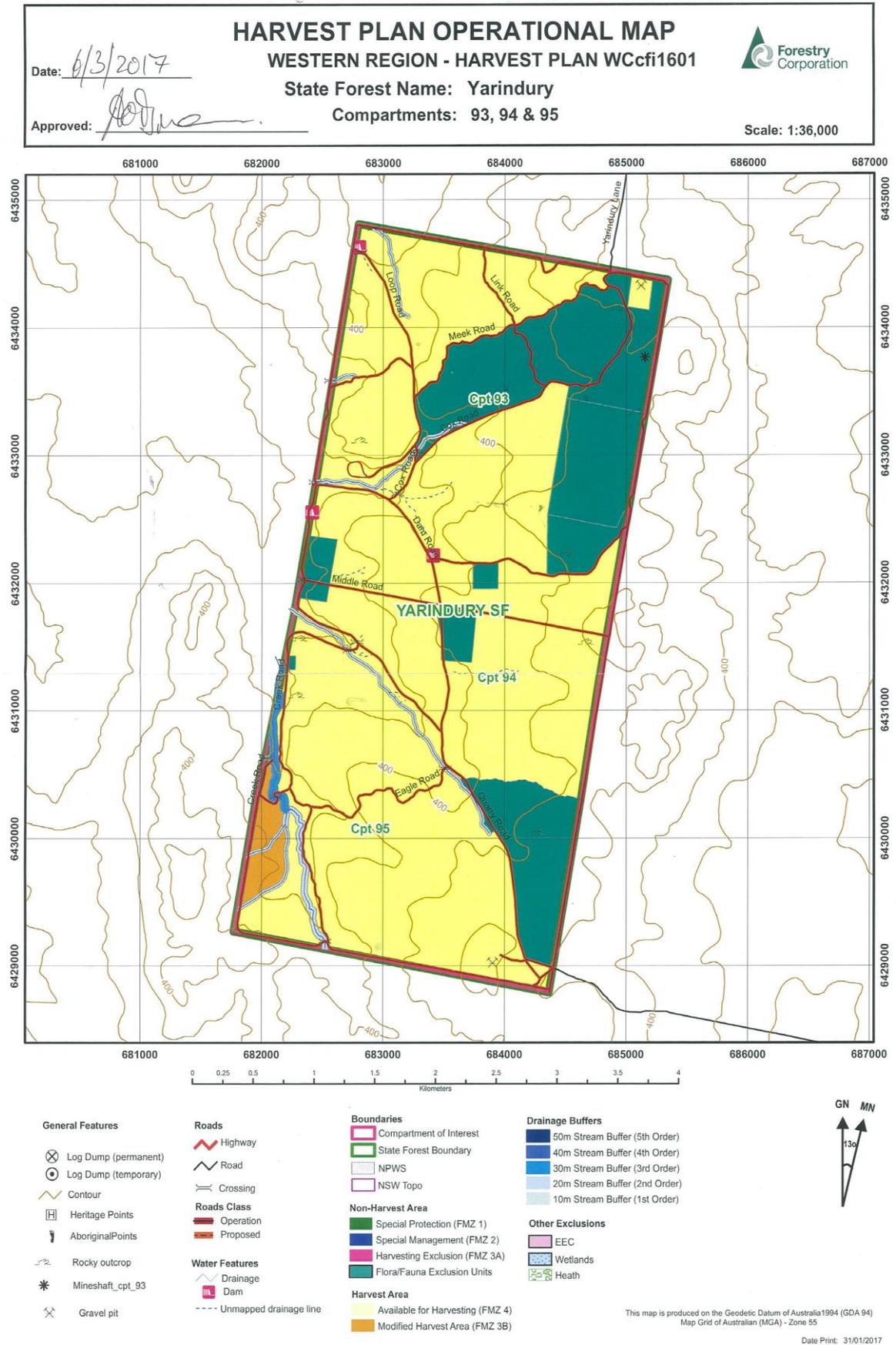
All major operations on State forest, such as harvesting, roading and fuel reduction burning, are required to have an operational plan. The operational plan is the key document describing how an activity will be undertaken. Each operational plan will contain an operational map at a scale of 1:25,000 (or 1:50,000 for more extensive areas) which will identify:

- location, extent and boundaries of the proposed activity
- topographic features such as contours and drainage features
- area where the activity is excluded and the reason for the exclusion
- any area which has a special prescription over and above the general prescription
- access roads and tracks
- potential significant impact sites, for example log dumps in harvesting operations and stream crossings in road works.

An example of an operational harvest plan map is provided in Figure 9.



Figure 9: Example harvest plan operational map



Draft for consultation



The written section of the operational plan will contain, where necessary, details of:

- activity objectives
- nature and extent of the activity or activities
- forest structure and, where appropriate, silvicultural techniques to be used
- flora and fauna general habitat, site-specific and threatened species habitat protection
- threatened fish habitat and native fish passage protection
- general and site-specific measures to control soil erosion, minimise transport of soil particles and protect water quality
- general and site-specific measures to protect cultural heritage values
- additional searches to be carried out during operations.

Operational plans will be reviewed prior to approval by the relevant manager. Documentation supporting development of the plan will be available for public inspection.

DOCUMENTATION ASSOCIATED WITH PLAN IMPLEMENTATION

Documentation and records management is an important component of Forestry Corporation's FMS.

Documentation and record keeping requirements are prescribed by the IFOA and through Forestry Corporation's records policy and SOPs.

Forestry Corporation maintains appropriate documentation and records in order to:

- manage risk
- demonstrate how legal and policy requirements are being met
- ensure we operate an efficient and effective business
- facilitate review and continuous improvement.

With the advent of new technologies, particularly mobile devices such as tablets and smart phones, the ability to capture and record information is changing. Forestry Corporation aims to embrace and develop this technology to improve management and business outcomes. To this end, Forestry Corporation has developed a mobile app (application) for staff that is used to capture environmental, planning and incident related information in the field via mobile devices. The app improves data capture through its ease of use, accuracy and the ability to automatically provide a spatial reference which is linked to the GIS. Forestry Corporation will continue to investigate opportunities to improve planning through the use of technology.

OPERATIONAL PLAN IMPLEMENTATION

Each operation has a designated supervisor who is responsible for implementation of the operational plan.

Before operations commence, the relevant supervisor, contractors, operators and employees are briefed on the contents of the operational plan to ensure that they share a common understanding of the plan's requirements.

Where Forestry Corporation or a Licensee engages a contractor to undertake a harvesting operation, in most cases, the control of the site is handed over to the contractor to ensure safe conduct of the activity.

Contractors, operators and Forestry Corporation supervisory staff are required to be trained and accredited to a recognised level of competence in the various tasks they undertake.

Training includes:

- environmental care in the fields of
 - ❖ operational plan implementation
 - ❖ flora and fauna management
 - ❖ Aboriginal and non-Aboriginal cultural heritage management
- silviculture
- soil and water management
- occupational health and safety procedures
- first aid skills
- log measuring and grading
- chainsaw and harvest machinery operation.



ENVIRONMENTAL DATA COLLECTION

Forestry Corporation maintains large databases including an extensive GIS. These are used to collect, process, store, analyse and report forest information for use in planning. Forestry Corporation's GIS libraries contain a suite of information on cadastre, mapping context, topography, the environment, forest disturbances and forest management.

Where site specific information is required to be collected under the terms of the IFOA, the staff collecting the data must have appropriate training and accreditation.

Other databases linked to the GIS include wood inventory, flora and fauna survey results and species location, Aboriginal cultural heritage sites and non-Aboriginal cultural heritage items.

In meeting its obligations to collect environmental data and as prescribed by the IFOA, Forestry Corporation will:

- collect additional data where current information is inadequate. As new information is collected, it can be incorporated into Forestry Corporation databases to ensure that planning is based on the most up-to-date information
- undertake threatened species surveys to determine prescriptions that apply to mitigate the impacts of harvesting
- undertake surveys where operations will impact on the exclusion zones around the aquatic habitats of threatened fish species
- collect site-specific information where significant soil disturbance will occur during activities. This information, together with additional information about the proposed activity, slopes and rainfall characteristics, helps to define inherent erosion and pollution hazard levels
- collect site specific information about Aboriginal cultural heritage values and manage issues using the Operational Guidelines for the Management of Aboriginal Cultural Heritage on State forests (*see Aboriginal Cultural Heritage*)
- assess non-Aboriginal cultural heritage sites identified during database searches and through field inspections and surveys for other values.

PROFITABILITY

COMMERCIAL USE OF STATE FORESTS

State forests support a range of commercial enterprises including those involved in harvesting and processing wood and other forest products and materials as well as enterprises using State forests for grazing, apiary, tourism, special events and hosting infrastructure such as telecommunications towers. In line with its objectives to run a successful business and maximise the value of the State's investment, Forestry Corporation seeks fair market value for the goods and services it provides in support of these commercial enterprises.

Wood supply sales account for the majority of revenue from commercial activities on State forests. The major wood products sourced from State forests include high quality sawlogs, poles, piles and girders, veneer logs, low quality sawlogs and pulpwood. Other wood products include fencing, firewood, craft wood and broombush.

Commercial operators also source non-wood products including foliage, flowers, seed and leaf oil as well as hard rock and gravel, while fees are also collected for areas of State forest that are leased for honey and beef cattle production, commercial tourism ventures or events and infrastructure placement.

EMPLOYMENT AND REGIONAL DEVELOPMENT

The forest and wood products industries employ more than 73,000 Australians including 22,000 people in NSW. NSW produces a third of Australia's softwood logs and has the largest number of hardwood sawmills in Australia.

Forestry Corporation is a major player in this large and diverse industry and has staff based in a number of regional areas throughout NSW, with major offices in Bathurst, Tumut, Coffs Harbour, Wauchope, Dubbo, Batemans Bay and Sydney and many smaller offices and depots. Of the more than 500 staff employed by the corporation, approximately 87 per cent are based in regional locations.



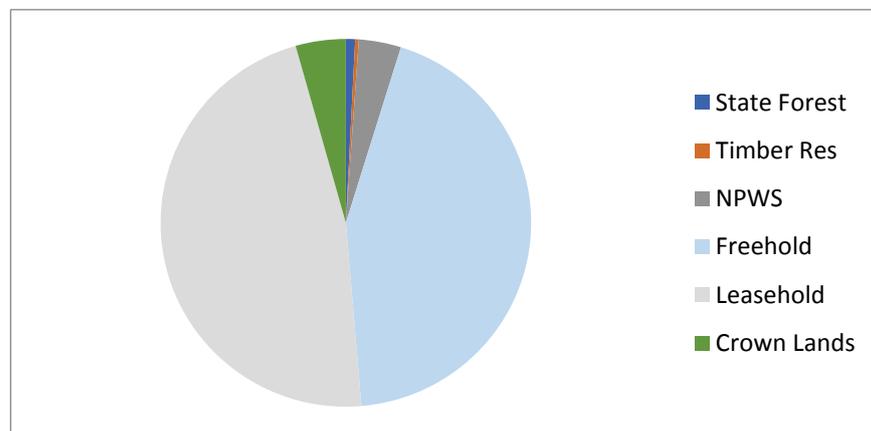
OUR ENVIRONMENT

State forests in NSW comprise native forest, hardwood plantations and softwood plantations. The native forests of NSW possess an array of ecosystems and other environmental values that the Forestry Corporation is committed to maintaining and enhancing wherever possible. The principle of ESFM is fundamental and entails the maintenance of ecological processes, biodiversity and protection of water quality.

Forestry Corporation recognises that healthy and vital forest ecosystems are the basis for promoting and maintaining biodiversity and productivity and for providing a wide range of possible community uses, products and benefits.

The JANIS¹ criteria identify forest ecosystems² as a surrogate for biodiversity³. These criteria were used to identify the extent of protection that would be necessary for a CAR reserve system across NSW. The CAR reserve system is comprised of dedicated reserves, informal reserves and values protected by prescription. The area of land within FCNSW Western Region covers almost 62 million hectares (ha) (75% of NSW). Of this, 483,207 ha (0.8%) is State forest, 184,899 ha (0.3%) is timber reserve and 2.2 million ha (3.6%) is managed under the *National Parks and Wildlife Act*.

Figure 10: Land Tenure as at 1 Jan 2018 in Western Region



Forests play an important role in the carbon cycle. Severe bush fires can contribute up to an estimated 25% of Australia's total annual carbon emissions. Sustainable wood harvesting combined with measures such as prescribed burning that reduce the intensity of bush fires can reduce the net release of carbon to the atmosphere each year.

To ensure ESFM objectives are realised, the NSW Government has developed a regulatory framework of environmental legislation and licensing for forestry operations on public lands.

The purpose of the IFOA is to provide a framework "that integrates the regulatory regimes for environmental planning and assessment, for protection of the environment and for threatened species conservation".⁴ It also regulates the yield of wood, forest products and materials and provides an ecological framework and conditions for site specific assessment and implementation during forest operations.

¹ J ANIS is an acronym for the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. The sub-committee established the Nationally Agreed Criteria for the Establishment of a Comprehensive Adequate and Representative Reserve System

² Forest and Non-Forest Ecosystems were modelled to establish the pre-1750 extent of forest ecosystems during the development of the Comprehensive Adequate and Representative Reserve System

³ Biodiversity is all the animal, plant and microbial life forms, the genes they contain, and the ecosystems and ecological processes of which they form a part.

⁴ Section 25(b) Forestry and National Parks (Estates) Act, 1998



FOREST ECOSYSTEM HEALTH

NATIVE FOREST STRUCTURE

Forest structure refers to the physical features of a forest that reflect its natural environment and management history. Largely determined by forest type, age and past disturbance such as wood harvesting and fire, forest structure is an important consideration when planning future management, including harvesting, of forests. The structure of the forest is reflected by the proportion of trees of different age and size over a given area.

Forestry Corporation recognises that healthy and vital forest ecosystems are the basis for promoting and maintaining biodiversity and productivity, and for providing a wide range of possible community uses, products and benefits.

Growth stage information is reported in the Australian Government State of the Forests report.

BIODIVERSITY AND FOREST HEALTH

In striving to achieve positive outcomes for forest health and biodiversity, Forestry Corporation is cognisant of the practical limits of what can be achieved. In particular with regard to invasive weeds and pests, and restoration of natural flooding regimes in the Riverina Bio-region. The scale of the problem in some areas is significant. Further research and a co-ordinated approach with other land management agencies is required.

The Forestry Corporation will maintain or enhance the health and productivity of forests to support conservation, timber production and other ecological sustainable uses.

This will be achieved through:

- implementing the silviculture strategy outlined in Native Forests Silvicultural Manual
- monitoring and responding to outbreaks of insect and disease problems and other causes of tree decline
- implementing Regional management plans including operations programs where appropriate for;
 - ❖ pest animal control
 - ❖ weed control
 - ❖ fire management
 - ❖ grazing management and
 - ❖ water management
- implement water management mechanisms to deal with the impacts of river regulation on the ecological character of the declared Ramsar wetland and
- focus research and development programs to deliver improvements in ESFM through better informed management.

Most planned landscape disturbances on State forest will be due to wood harvesting, which is supplemented by silviculture works and sometimes post-harvest burning to reduce flammable fuels and encourage stand development.

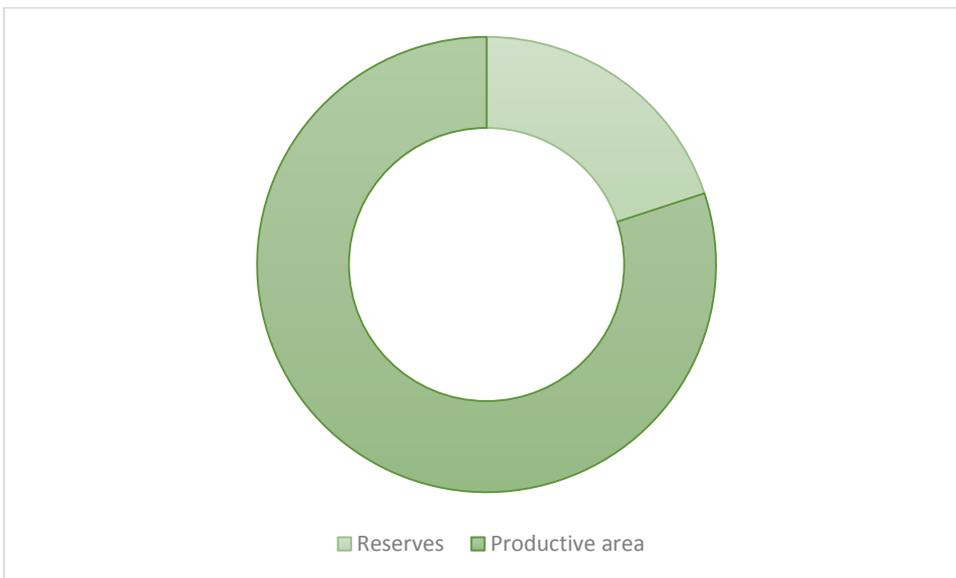
Forestry Corporation will monitor and report the type and extent of harvesting each year.

LANDSCAPE PROTECTION

Protection of certain landscape features, communities and habitat components is an important part of maintaining a balance between wood production and conservation outcomes. Through the NFPS and Western Forest Assessment process, substantial areas of State forest have been set aside specifically for conservation.



Figure 11: Reserve area in Western State forests of NSW



The forests managed by Forestry Corporation have been thoroughly assessed and zoned according to their conservation value using the Forest Management Zoning (FMZ) system¹. The FMZ system outlines what activities are appropriate in each area depending on its classification, as summarised in the table below and further explained in the circular *Managing Our Forests Sustainably - Forest Management Zoning in NSW State Forests* available from the Forestry Corporation website.

¹ FMZ is a land classification system which sets out spatially the way Forestry Corporation intends to manage areas across the forest estate. The system was developed in consultation with other agencies and stakeholders during the CRA process.



Table 5: Management status and principle by area for State forest tenures in the Western Region

Management intent	Area (ha)	Management principles
Formal Reserves (Flora Reserves) ¹ FMZ 1 – Special Protection	1,757	All formal reserves and flora reserves have been zoned FMZ 1 - Special Protection are dedicated reserve areas managed to maximise protection of very high natural and cultural conservation values. Management will generally exclude intentional disturbance, but may facilitate education and scientific research and benign recreation. Management may also prescribe the use of fire to maintain and protect ecosystems in the landscape. Management activities will be guided by a Working Plan approved by the Minister administering the <i>Forestry Act 2012</i> .
Informal Reserves (Special Management Zones) ² FMZ 2 – Special Management and FMZ 3A – Harvesting Exclusion	347	Informal reserves are comprised of FMZ 2 and FMZ 3A that are also a Special Management Zone as defined under the <i>Forestry Act 2012</i> . Special Management Zone boundaries may only be varied by an act of parliament. Informal reserve areas are managed to maximise protection of special conservation values. Management will generally exclude planned disturbance, except that associated with provision and use of infrastructure and protection of natural and cultural values. Management may also facilitate scientific research and prescribe the use of fire to maintain and protect ecosystems in the landscape. Mining under the provisions of the <i>Mining Act 1992</i> may be permitted, but only after meeting environmental assessment and development consent requirements.
Protected by prescription ³ FMZ2 – Special Management, FMZ 3A - Harvesting Exclusion and 3B - Special Prescription	93,886	This comprises areas outside Special Management Zones: <ul style="list-style-type: none"> ■ Elements of habitat protected by prescriptions detailed in the IFOA, including rare non-commercial forest types, high conservation value old growth forest and rainforest that are not within the informal reserve system ■ FMZ 2 - Special Management that because of size and shape does not meet the Informal Reserve requirements ■ FMZ 3A - Harvesting Exclusion ■ FMZ 3B - Harvesting Exclusion or Modified Harvesting.⁴ <p>Areas have been identified and detailed in geographic information system (GIS) layers defined in the IFOA.</p> <p>Management will generally exclude harvesting and associated disturbance but will permit grazing on leases held pursuant to the <i>Crown Lands Act 1989</i>, mineral and petroleum exploitation and the use of fire to maintain and protect ecosystems within the landscape.</p>
General Management FMZ 4	381,360	Management allows wood harvesting subject to requirements of the IFOA, which include habitat and feed tree retention along with species specific conditions and exclusion zones.
Hardwood Plantations FMZ 5	0	
Softwood Plantations FMZ 6	84	Managed for research purposes.
Non-Forestry Uses FMZ 7	9	Managed for non-forestry use, usually associated with some form of infrastructure such as powerlines, gas pipelines and telecommunications facilities.

¹ Formal reserves are in the form of national parks, nature reserves, and, on State forest, flora reserves. These areas are equivalent to International Union of Conservation and Nature (IUCN) Protected Area Categories I, II or IV and on State forest are classified as Forest Management Zone (FMZ) 1 – Special Protection.

² Informal reserves include Crown Reserves, State Recreation Areas and State Conservation Areas. On State forests they are FMZ 2 – Special Management areas that are greater than 40 hectares and have a minimum width of 200 metres or are adjacent to dedicated reserves. They also include special management zones where they have been created under Section 18 of the *Forestry Act 2012*. All are equivalent to IUCN Protected Area categories II, III, IV or VI.

³ Protected by prescription comprise those elements of habitat that are protected by regional prescription as detailed in the IFOA. They also include FMZ 3A - Harvesting Exclusion, FMZ 3B - Special Prescription where harvesting will be modified and FMZ 2 - Special Management that have not been included in the informal reserve system because of size, configuration or location. Areas are equivalent to IUCN category IV.

⁴ FMZ 3B permits wood harvesting, forest product or mineral extraction though the activity will be undertaken to maintain or enhance the values that the area is zoned to protect.



Further Assessment FMZ 8	5,540	An interim zoning of areas where field investigation was required to determine final FMZ classification (this classification now largely redundant).
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Forestry Corporation will use the ESFM criteria and indicators identified in the CRA to monitor and report annually the:

- progressive change in State forest area
- extent and proportion of State forest area contributing to conservation of natural and cultural heritage in the CAR reserve system
- completion of Working and Management Plans, their implementation and relevance
- changes in management intent and amendments to FMZs.

BIODIVERSITY

Biodiversity is measured in terms of genetics, species and ecosystems. Forests are dynamic, rather than static, systems with biodiversity constantly changing as the forest responds to natural forces such as storms and fire. All forests are in varying states of succession towards an advanced age growth stage.

Forestry Corporation is committed to the principles of ESFM and:

- contributes to the management of biodiversity across the forested landscape¹
- uses adaptive management principles and actions within State forests to complement the management of the CAR reserve system.

It is recognised that forestry operations such as harvesting, thinning and hazard reduction burning can have an impact on species diversity and abundance and on ecosystems at the time and place of disturbance. To ameliorate these impacts, forestry operations are undertaken in a patchwork-like fashion, dispersed in space and time to create a mosaic of undisturbed and disturbed forest throughout the landscape. In addition, formal and informal reserves are interspersed throughout the landscape, providing biodiversity refuges and sites from which recruitment of new populations can occur.

Within disturbance areas, operational conditions are applied to reduce the level of impact on forest-dependent species and to maintain critical ecosystem components that further supplement the protection provided by the formal and informal reserve system. As forests regenerate and develop over time, a diverse range of forest ages and stages is beneficial to maintaining biodiversity throughout the landscape.

The FMZ system and Forestry Corporation's standard operating procedures (SOPs) for harvesting and road works, which together with the regulatory framework, will ensure that biodiversity is protected during forestry operations within State forests. Additionally, Forestry Corporation:

- implements biodiversity monitoring across the State forest estate to meet obligations under our Forest Management System and regulatory requirements under the IFOA²
- manages dedicated and informal reserves using approved plans and create, where appropriate, special management zones
- manages special prescription areas through the provisions of the FMZ system and the IFOA
- uses the results of best practice ecological survey techniques in identifying flora, fauna, fish and heritage values to inform and guide the development of operational plans
- develops regional plans and local annual programs, which also incorporate provisions of threat abatement plans developed under the *Biodiversity Conservation Act, 2016* for control of pest animals and weeds³
- plan for fire fuel hazard reduction burning to be conducted in accordance within defined parameters so that burning activity minimises impacts in sensitive environments, reduces the risk of high intensity uncontrolled wildfire and enhances forest ecosystem values
- develops a plan for the grazing of domestic animals that recognises and takes account of ecological impacts

¹ The NSW Biodiversity Strategy identifies the CRA/RFA program resulting in CAR reserves as one of the key initiatives undertaken in NSW to protect core areas of biodiversity. It also identifies ESFM, which would include species recovery planning and pest management programs, as a means of protecting biodiversity on all forested tenures.

² The biodiversity monitoring program for the western State forests of NSW is comprised of several parts including species specific monitoring, broad forest monitoring and monitoring associated with The Living Murray Project.

³ Weed and pest management plans are developed in the context of national and state strategies and regional weed and pest management control plans and committees



- schedules operations to maintain a diverse range of forest structures, providing a full suite of potential habitats and niches for flora and fauna.
- monitors and reports biodiversity conservation performance to Montreal criteria standard¹ and undertakes operational compliance monitoring.
- trains and, where necessary, accredits planning and management staff to a standard necessary to achieve biodiversity conservation outcomes
- undertakes cooperative research to improve biodiversity conservation outcomes
- cooperates with other government agencies, neighbours and community organisations in the delivery of coordinated land management planning instruments that affect biodiversity values in forested landscapes.

Management Focus Area: establish measures that will enable tracking of outcomes on flora, fauna and soil and water.

TREE DECLINE, DISEASE AND INSECTS

Chronic decline occurs when there is environmental stress such as, exclusion of fire, changes to hydrological regimes (e.g. as a result of river regulation) or salinization. A range of insect species are attracted to trees under stress and decline. For example, gum leaf skeletoniser, mistletoes and native cherry because physiological changes in the trees improve their nutritional value to the pest species.

Dieback is a reaction to acute stress such a drought or prolonged flooding. It's a protective mechanism and otherwise healthy trees recover when the stress is removed.

In white cypress, chronic decline shows up as crown defoliation, and resin exuding from the bark. It occurs sporadically on well drained soils where exclusion of fire has promoted dense competing regeneration.

Fungal diseases, commonly *Phytophthora* and *Armillaria*, often occur in declining forests. Fungal attack commonly affects the roots and can affect the seed, seedlings, stems and leaves. Fungal attack (punk rot) in River Red Gum is a major contributor to the development of defect inside the stems of trees and is often a precursor to secondary infestation by insects.

Yellow rot is a significant defect of White Cypress trees. It generally enters through a point of bark damage or a broken green limb.

Forest insects, at some stage in their lifecycle, generally utilise some part of a tree – leaves, bark, wood, limbs and roots, whether it be for sustenance, protection or egg laying. Insect herbivory is often more apparent on trees that are stressed by other factors. As well as impairing tree health and vigour, insects may degrade timber.

A number of leaf eating insects attack River Red Gum, with the gum leaf skeletonizing moth (*Uraba lugens*) able to cause severe defoliation when in plague proportions. Parasites such as mistletoe and Native Cherry are linked to a reduction in tree vigour but rarely cause tree death. Severe infestations by insects and parasites appear to be related to river regulation and less frequent, less extensive forest flooding, or changed fire regimes.

Outbreaks of native organisms can also contribute to chronic decline in native forests. The potential impact of insect pests and diseases will be reduced, where possible, in river red gum forests through reinstatement of more natural flooding regimes, by ecological burning and by thinning in timber production areas to reduce stressful competition.

During the 2000-2010 drought, dieback has been widespread in white cypress and river red gum forest. In patches where the dieback is such that tree recovery is unlikely, salvage of the commercial timber may be undertaken

To combat the causes and effects of tree decline, disease and insects, Forestry Corporation:

- conducts assessments of harvest areas to determine
 - ❖ the forest stand type
 - ❖ whether there is potential to conduct a harvesting operation
 - ❖ whether it is possible to achieve forest health improvements through prescribed burning and/or supplementary planting
- collaborates with other agencies (particularly the Department of Primary Industries) and landholders to develop and implement management practices
- further develops Light Detection and Ranging (LiDAR) and the use of drones to assist in identification of areas of forest decline.

¹ See Criteria, Indicators, Targets and Monitoring Processes of Ecologically Sustainable Forest Management for the UNE and LNE RFA Regions.



Management Focus Area: Continue to implement thinning programs to improve tree health and survival during periods of extended drought.

FIRE MANAGEMENT

Forestry Corporation is committed to protecting human life, property, biodiversity and cultural values from high intensity fire and, as one of the four fire authorities in NSW, Forestry Corporation also has legal fire management obligations under the *Rural Fires Act 1997*.

Careful use of prescribed fire can assist in the forest regeneration process, by promoting seed fall, improving seedbed condition and removing competition where flooding is unlikely. Fire can also be used to achieve ecological outcomes in certain areas, such as wetlands, or to assist maintaining grassy understorey character of selected box woodlands by limiting scrubs and cypress regeneration, and reduce fuel loads in canopy openings after harvesting.

Where prescribed ecological burning is undertaken, site specific operational plans will be prepared for each ecological burning operation. Forestry Corporation will also specify measures to be undertaken that will:

- minimise adverse impacts on the environment, and
- minimise the risk of escapes

Forestry Corporation participates in coordinated fire management in NSW through District Bush Fire Management Committees. These committees cooperatively develop a Bush Fire Risk Management Plan across all land tenures as well as operational plans to assist the prevention, detection and suppression of bushfires. Bush Fire Risk Management Plans identify community and environmental assets throughout the landscape and assess the threat posed by wildfires.

The IFOA recognises Forestry Corporation's responsibilities and contribution to coordinated fire management and sets out additional environmental safeguards that must be adhered to in the fuel management process.

In executing its fire management responsibilities, Forestry Corporation:

- develops fuel management plans and fire suppression plans, which are consistent with, and aim to achieve the objectives of, NSW Bush Fire Risk Management Plans
- develops Pre-incident Plans that are based on fire protection areas (Cypress and Red Gum Districts) to provide consistent instructions and information to staff about resourcing, key contacts and logistics
- provides details of each proposed hazard reduction burn into the Rural Fire Service (RFS)'s fire management systems and ensure areas burnt are updated as required
- develops a corporate fire management strategy to guide fire management planning, implementation and cooperation with other agencies wherever Forestry Corporation manages land
- prepares site-specific operational plans for each fuel reduction burning operation that specify measures to be taken to minimise adverse impacts on the environment, reduce the risk of fire escape, and monitor the impacts on the environment
- reports on fire prevention and suppression performance annually on Forestry Corporation's website.

Forestry Corporation maintains and uses a network of specialised radio and fire detection towers with select towers now incorporating remote fire detection cameras.

Management Focus Area: to meet fire suppression and hazard reduction obligations under the *Rural Fires Act 1997*.

GRAZING MANAGEMENT

Grazing of domestic stock is common in the western State forests. Open, grassy understorey has been an attractive feed source for graziers for over 150 years. The main timber species (river red gum and white cypress) are quite fire sensitive, so fire protection is a very high priority and hazard reduction burning has limited application. The development of the Western Region Grazing Management strategies has changed the focus of grazing management to now embody conservation as well as production and fuel reduction objectives.

Current grazing practices have been developed to maintain ecological systems and processes, and protect species diversity. The strategies and conditions developed for each grazing area are designed to maintain or enhance conservation values, primarily through the manipulation of the ground layer in favour of endemic species.



Forestry Corporation will progressively include site specific detailed grazing objectives for new and existing grazing Occupation Permits, in accordance with the Western Grazing Management Plan. Grazing will continue where it is compatible with silviculture and conservation objectives. Grazing will be removed/excluded from areas requiring establishment of regeneration and environmentally sensitive areas that cannot be sustainably grazed according to the conservation principles in the grazing management plan. Grazing will continue where it is compatible with silviculture and conservation. Renewal of Forest Permits will be contingent on Permittee compliance with Permit conditions. Forestry Corporation will monitor implementation of Forest Permit conditions objectives. Grazing will be removed/excluded from areas requiring establishment of regeneration and environmentally sensitive areas that cannot be sustainably grazed according to the conservation principles in the grazing management plan.

Renewal of Forest Permits will be contingent on Permittee compliance with Permit conditions.

PEST ANIMAL MANAGEMENT

Animal pests are of concern when they impact on the environmental or economic values of the forest or on neighbours. The NSW Scientific Committee can identify predation, habitat modification or competition by pest animals as key threatening processes under the *Biodiversity Conservation Act 2016* and pest animals noxious under the *Biosecurity Act, 2015*.

Within the western State forests cats, foxes, wild dogs, rabbits, deer, goats and pigs have been identified as pest species. Forestry Corporation works with Local Land Services regions (LLS), local government, other agencies and stakeholders to develop regional strategies to manage these pest animals.

To mitigate the impact of pest animals Forestry Corporation:

- consults with LLS and develops a pest animal management plan that meets the requirements of the licence under the *Biodiversity Conservation Act 2016*. The plans identify species of concern, their distribution, priorities for control programs and methods to be used. Generally, control programs target:
 - ❖ foxes, in target areas, with treatments identified in the fox threat abatement plan developed under the *Biodiversity Conservation Act 1995*
 - ❖ wild dogs, pigs and other species of local importance, where they are a threat to domestic stock and the environment
- undertakes control work in line with the NSW Agriculture Vertebrate Pest Control Manual and implements the requirements of the *Pesticides Act 1999*
- develops an annual program of pest control work based on information from previous programs, landholders, Local Land Services and other agencies, and apply the procedures in the pest animal management plan
- monitors activity around bait stations, baits taken and reports of predation on livestock.

WEED MANAGEMENT

Weed management responsibilities are defined under the *Biosecurity Act (2015)* and administered by Local Land Services through Regional Strategic Weed Management Plans (RSWMP). FCNSW Western region has forests in North West, Central West, Central Tablelands, Riverina, Murray and Western LLS Regions. Each LLS Region has a unique RSWMP with weeds classified by four Priority Objectives; Prevention, Eradication, Containment or Asset Protection.

Weeds where the Priority Objective is 'Eradication' or 'Containment' will be managed on State forest. Where the Priority Objective is Asset Protection, the weed is generally considered to be so widespread that it can only be managed in limited areas around significant assets. There are few such areas on State forests in Western Region.

Each LLS Region has prioritised its weeds independently. Below is a comparison of the priorities assigned to various weeds that are likely to be significant to FCNSW Western Region. (This is not a complete list of weeds in the RSWMP. Refer to the relevant plan for full details.)

Table 6: Western Region Significant weeds by LLS Region (as prescribed in the RSWMP's)



Species	Regional LLS Management Objectives					
	West	North West	Central West	Riverina	Murray	Central Tablelands
African boxthorn (<i>Lycium ferocissimum</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Alligator weed (<i>Alternanthera philoxeroides</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Bitou bush (<i>Chrysanthemoides monilifera subsp. rotundata</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Blackberry (<i>Rubus fruticosus agg</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Boxing glove/Coral cactus (<i>Cylindropuntia fulgida</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Bridal creeper (<i>Asparagus asparagoides</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Chilean needlegrass (<i>Nassella neesiana</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Coolatai grass (<i>Hyparrhenia hirta</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Devil's rope (<i>Cylindropuntia imbricata</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Gorse (<i>Ulex europaeus</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Hudsons pear (<i>Cylindropuntia rosea</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Mother of millions (Bryophyllum spp. and hybrids)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Prickly pears (Opuntia spp. excl Opuntia ficus-indica)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Serrated tussock (<i>Nassella trichotoma</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Silverleaf nightshade (<i>Solanum elaeagnifolium</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Spiny burrgrass (<i>Cenchrus longispinus</i> , <i>Cenchrus spinifex</i> (syn. <i>C. incertus</i>))	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
St John's wort (<i>Hypericum perforatum</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Sweet briar (<i>Rosa rubiginosa</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent
Water hyacinth (<i>Eichhornia crassipes</i>)	Prevent	Prevent	Prevent	Prevent	Prevent	Prevent



(Derived from Western RSWMP 2017-2022, Appendix 3 and Central Tablelands RSWMP 2017-2022 Appendices 1 and 2)

To mitigate the effects of weeds on the State forest estate and adjoining tenures, Forestry Corporation:

- develops weed management plans that meet the requirements of the IFOA and identify weeds, their distribution and control techniques. Where control involves the use of herbicides the plan will also address the type of herbicide, appropriate application techniques, environment protection measures and the safe storage, handling and disposal of chemicals and containers
- responds to stakeholder concerns regarding weed treatment
- monitors the results of weed management activities and detail outcomes each year through annual reports.

Forestry Corporation is committed to using chemicals only where appropriate, and with care for the maintenance and protection of water quality, biodiversity, soil values and neighbouring land uses. Forestry Corporation aims to minimise the use of chemicals while meeting our legal obligations to manage weeds.

The use of chemicals for general management on State forests is governed by legislation and detailed in the Forestry Corporation Manual for the Use of Chemicals.

The use of chemicals is identified in the Forestry Corporation risk register and the following broad strategies are employed to minimise the risk associated with chemical use:

- consideration of alternatives (including eliminating and substituting products)
- understanding the products used
- application in accordance with manufacturer's recommendations or the off-label permit conditions



- maintaining equipment
- consideration of where and when to apply them.

Operational plans specify the requirements associated with chemical application, including any requirements to consult with or advise neighbouring landholders prior to chemical application. Forestry Corporation implements the requirements of our Pesticide Use Notification Plan which describes how we provide the public with notice about our pesticide use in outdoor public places. Operational plans specify the requirements associated with chemical application, including identification of any sensitive areas.

All those who handle and use pesticides must hold current accreditation in pesticide application and specific training requirements are identified for supervisors involved in aerial application of pesticides.

Water sampling may be undertaken after using herbicides to ensure they are not found in waterways. The decision to undertake sampling will be based on a range of factors including legislative requirements, the application method and environmental factors.

Management Focus Area: to contribute to improvement of forest health by undertaking targeted pest and weed management programs.

CO-OPERATIVE WATER MANAGEMENT

The health and development of the river red gum forests is dependent on a regime of regular flooding. Disruption to the natural flooding patterns as a result of river regulation is directly related to a reduction in tree vigour and forest health, and degradation of floodplain wetlands.

The 2000-2010 drought exacerbated the changes due to river regulation and tree stress in the river red gum forests on all tenures. The ability to use the Torrumbarry channel and associated levees and works to provide frequent extended flooding, when water is available, provides some security for the health of the Perricoota and Koondrook State Forests even in the event of extended dry times in the future. (Campbell's Island State Forest does not have any water management structures and relies on uncontrolled flooding events).

Such flooding must be in accord with the consent provisions issued by the Department of Planning, with NSW Office of Water and Forestry Corporation being the co-proponents. The purpose of the infrastructure is to water the Koondrook and Perricoota Forests to improve forest health and ecosystem function. Under The Living Murray initiative, an Environmental Water Management Plan has been developed for the Koondrook and Perricoota State Forests, identifying management objectives and targets, water delivery options and the specific watering regimes required at each site. That will supplement this ESFM plan in the area of water management. Forestry Corporation is actively participating in The Living Murray process by maximise the benefits for forest health.

To the extent that funding is available, Forestry Corporation will for Koondrook and Perricoota State Forests:

- contribute to the implementation of the EWMP, including the monitoring components.

Key ecological monitoring includes:

- ❖ Tree crown response (crown extent and density)
- ❖ Understorey vegetation (species and % cover)
- ❖ Wetland response, including vegetation, macroinvertebrates and frogs
- ❖ Fish behaviour, particularly passage through structures and spawning
- ❖ Waterbird behaviour, particularly mating, nesting and fledging

Key flood monitoring includes:

- ❖ Inundation extent, flow path and rate of spread
- ❖ Duration of the event so far
- ❖ Time of year/season
- ❖ Characteristics of the inflow hydrograph
- Instigate flooding in accord with the OEMP
- Pursue resolution of downstream flow restrictions.

The health of the Koondrook and Perricoota State Forests (part of the Central Murray State Forests Ramsar Wetland) will be maintained through sound planning and active management. Forestry Corporation will monitor and report on the state of the ecological character and related 'limits of acceptable change' in the Ramsar Ecological Character Description (ECD) of these State forests within the Ramsar wetland and will implement mechanisms to deal with the impact of actions that individually or cumulatively may endanger its ecological character.



Understocked stands of river red gum, identified in appropriate Forest Management Zones, may be rehabilitated through active water management to regenerate a vigorous canopy of trees native to the area.

Forestry Corporation will report on the outcomes of water management actions through The Living Murray program.

SOIL AND WATER

Soil and water resources are an integral part of the forest landscape. State forest areas form vital water catchments and forests play an important role in providing clean water and regulating water flow. Maintaining adequate vegetation cover is important in increasing water infiltration, reducing overland flow, flooding and potential for soil loss.

Forestry operations such as wood harvesting and haulage, road construction and maintenance have the potential to impact soil and water values through compaction and exposing soil to the erosive forces of rainfall, creating the potential for increased runoff and erosion and sediment delivery to the stream network. Research has also shown that the amount of sediment generated from the forest road network is related to road usage and traffic intensity, and that sediment yield from road surfaces declines significantly when they are used infrequently. Hence to protect water quality and the aquatic habitat, Forestry Corporation targets its road management activities to those sections of the forest road network where timber haulage is active and for areas of high public visitation.

High intensity fires also have the potential to remove large quantities of nutrients from the landscape, destroy living organisms, consume organic matter in surface soils and impact soil structure and chemical properties. Increased overland flows after high intensity fire cause accelerated erosion and deliver large quantities of ash and sediment to the stream network which then dramatically changes the aquatic environments of forest streams

To reduce soil erosion and minimise water pollution during forestry operations Forestry Corporation implements a range of management practices including:

- the use of riparian buffer strips to reduce connectivity between areas of disturbance and the stream network
- siting and design of roads and road crossings to minimise sediment input to the stream network
- seasonality, slope and soil type restrictions on harvesting and road construction
- minimising soil disturbance, and
- conducting hazard reduction burns to reduce the risk of high intensity fires.

Forestry Corporation will continue to conserve soil and protect water quality by implementing the collective provisions of:

- best practices provisions and SOPs related to protection of soil and water values, and
- the Environment Protection Licence within the IFOA.

In addition Forestry Corporation uses adaptive management principles to continuously improve planning and field implementation and:

- develops Strategic Road Management Plans incorporating environmental risk assessment and schedules that set priorities for road work
- incorporate and update soil regolith survey data into integrated operational planning (see Asset and forest estate productivity)
- assesses soil regolith in areas of potential erosion risk (such as drainage feature crossings) and implements site specific prescriptions in these areas
- monitors and reports operational implementation of soil conservation and water quality maintenance measures (Compliance monitoring program)
- seeks soil conservationist expert advice on field practice
- researches the effects of road works, wood harvesting and fire on water quality – examples include the Karuah Hydrology Study and studies conducted under the IFOA Environment Protection Licence
- trains and accredits where necessary, staff and contractors with operational and supervisory roles in road works and harvesting (see Our staff)
- provides copies of relevant best practice material such as SOPs to contractors and staff
- disperses wood harvesting across catchments to minimise possible local effects on water quality and quantity
- manages forest fuels to minimise potentially catastrophic wildfire damage (*see Our environment*).

Management Focus Area: minimise the pollution risk from forest roads and trails.



CARBON BALANCE

Forestry Corporation recognises the important role forests play in the carbon cycle.

Carbon dioxide (CO₂) is absorbed by growing trees through photosynthesis. This carbon is stored in the tree for the life of the wood, even after it has been harvested and processed into a wood product.

The benefit to the environment of turning forest wood into products is that if trees are left to decompose in the forest, the carbon is returned to the atmosphere. In addition, the younger trees that become established in their place absorb carbon faster as they grow faster than older trees.

The combined effect of net sequestration of carbon in sustainably managed State forests, combined with the carbon stored in the wood products they produce is equivalent to taking more than 230 000 cars per year off the road.

CONTRIBUTION TO CARBON CYCLES

In the sustainable management of forests for wood and other products, Forestry Corporation will maintain the carbon cycle and contribute to Australia's net emission reduction program by:

- enabling captured carbon to be stored long term in harvested wood products
- providing for further net atmospheric carbon capture in the growth of vegetation following wood harvest
- reducing the potential for large intense wildfires, which generate greenhouse gases
- maintaining or improving the productive capacity of the native and plantation forest estate, as the level of carbon sequestration is proportional to the vigour of the trees
- seeking opportunities for the potential for harvesting waste and residues to be used as bio-fuels.

REPORTING ON CARBON

Forestry Corporation actively calculates and reports annually on the amount of carbon that is sequestered and stored in the native forest estate. This data is publicly available.

REDUCING EMISSIONS

Forestry Corporation aims to reduce carbon emissions by increasing the efficiency of its operations. Forestry Corporation actively works to reduce the amount of carbon emitted by plant, vehicles and burning, by using the most efficient operational practices available.

The use of vehicles for the transport of staff and equipment is managed to minimise the use of fuel. Vehicle numbers and efficiency are both factors that are considered in the management of the light vehicle fleet. Forestry Corporation supports the NSW Government's Cleaner Vehicles Action Plan which seeks to improve the environmental performance of the government vehicle fleet by encouraging use of smaller, more fuel-efficient vehicles.

CLIMATE CHANGE

Forestry Corporation is part of an Inter-Agency Steering Group (IASG) established at the direction of the Minister for the Environment. The group's purpose is to provide oversight for the Assessing NSW Government Agencies Preparedness for Climate Risks project.

This includes shaping and endorsing an appropriate process to assess current actions by NSW Government agencies to identify and manage climate change risk to agency assets, agency infrastructure and agency service provision.

Management Focus Area: contribute to carbon cycle research and maintain carbon accounting requirements.

FOREST RESEARCH AND DEVELOPMENT

Improved information derived from research and development provides an impetus for adaptive management and the continuous improvement process that is critical to ESFM.

Forestry Corporation's priorities in forest research and development include:



- developing management prescriptions for sensitive and/or threatened species through review of the IFOA by the corporations Ecologists and operational staff in conjunction with the DPI Forest Science group
- improving understanding of the environmental impacts of forest disturbance through development of biodiversity monitoring programs
- Continued implementation of the Environmental Water Management Plan that has been developed for the Koondrook and Perricoota State Forests as part of the Living Murray project
- developing technologies such as LiDAR and the use of drones to improve planning efficiency, inventory and management of forest health
- developing appropriate mechanisms such as biodiversity monitoring and species-specific research to monitor and continually improve the sustainability of forest management practices.

NSW DPI Forest Science group provides technical advice and research and development services to Forestry Corporation under a Service Level Agreement (SLA). This work is undertaken in conjunction with FCNSW specialist staff who have scientific and technical expertise in forest ecology and sustainability, forest health and biosecurity, remote sensing technologies, carbon in forests & wood products and bioenergy, and biometrics and forest modelling. Forestry Corporation currently invests \$1.71 million per year in research and development under the SLA. Approximately half of this amount is invested in hardwood forests. Current hardwood forest research and development priorities being undertaken by DPI and the Forestry Corporation for the Western Region include:

Forest ecology and sustainability

- designing and developing landscape scale biodiversity monitoring systems with a focus on low cost new technology
- targeted research on threatened species and their habitat such as the radio tracking of forest bats (Pilliga forests)
- scientific assessment of the ecological sustainability of forest practices such as ecological impacts of thinning cypress regrowth (Pilliga) and young red gum (Koondrook and Perricoota State Forests)
- developing, testing and applying automated methods for the identification of calls from different species, especially bat echolocation calls.

Remote sensing technologies

- evaluating and facilitating the adoption of remote sensing technologies including the use of drones

Biometrics and forest modelling

- inventory designs and procedures to inform operations about available timber products and standing volumes
- providing biometrical support to ensure statistically robust research and monitoring programs.



OUR COMMUNITY

NEIGHBOUR AND OTHER STAKEHOLDER RELATIONS

Forestry Corporation acknowledges the positive contribution that stakeholders make to forest management. Forestry Corporation's stakeholders include, but are not limited to, neighbours, local communities, customers, contractors, forest users, regulators, government agencies, industry and employee groups, Aboriginal groups and communities, and non-government organisations.

Forestry Corporation is committed to facilitating and encouraging meaningful engagement of stakeholders by providing opportunities for stakeholders to make their views known and by considering and incorporating these views into planning processes.

Forestry Corporation publishes on its website the 12-month plan of operations for harvesting and the associated detailed harvest plans. These enable the public and interested stakeholders to better understand the activities of Forestry Corporation and provide a way of initiating engagement.

CUSTOMER FOCUS

The potential for the long-term business interests of Forestry Corporation and its wood-based customers is linked to the sustainable management of the forests. Forestry Corporation is committed to the principles in the RFAs to provide a long term stable and sustainable wood supply for industries and to enable other forest-based opportunities, particularly in the areas of tourism and recreation, to develop and prosper.

This plan acknowledges the many and varied customers of Forestry Corporation that deliver employment and community development opportunities in regional NSW. The timber industry plays an important role in many regional areas through direct employment in wood processing and in the support services such as equipment maintenance and supplies.

In continuing to engender trust and promote forest-based ventures, Forestry Corporation is committed to active engagement with customers. To facilitate this, Forestry Corporation aims to be responsive, undertake regular communication and generally improve its culture of customer focus.

Management Focus Area: to be regarded as a reliable wood supply partner.

REGIONAL ECONOMIC DEVELOPMENT

Forestry Corporation aims to provide opportunities for the community to take advantage of the potential State forests offer to generate social and economic benefit, particularly within regional communities. Commercial use of forests and forest products is a significant contributor to regional economies.

State forests support a range of commercial enterprises including those involved in harvesting and processing wood and other forest products and materials as well as enterprises using State forests for grazing, apiary, tourism, special events and hosting infrastructure such as telecommunications towers. In line with its objectives to run a successful business and maximise the value of the State's investment, Forestry Corporation seeks fair market value for the goods and services it provides in support of these commercial enterprises.

NATIVE FOREST TIMBER INDUSTRY

The Forest Assessment processes are premised upon the concept of ESFM and provide the foundation for a long term stable and secure timber industry. Within the area covered by this FMP, Forestry Corporation supplies wood to more than 16 customers that play an important role in regional communities. These customers vary in size and capacity with intakes from less than 1,000 m³ to over 20,000 m³ per annum.

Wood processing facilities are highly capital intensive and require long term supply agreements to encourage investment. To facilitate this, the NSW Government entered into contractual Wood Supply Agreements to make available the volumes identified in the FA process. The resource security offered by the agreements has promoted investment in new machinery to more efficiently utilise a range of log sizes and to develop value adding through establishment of kiln drying and dressing of high quality timber.

In addition to mills supplied from State forest, there are some supplied from both Crown timber lands and private property.



STAKEHOLDER ENGAGEMENT PLANS

In general, Forestry Corporation engages with stakeholders in three key ways:

- during the development of strategic forest management plans
- around specific issues that are of interest to a stakeholder group
- day-to-day, as an integral part of site-specific operational planning.

Forestry Corporation:

- identifies relevant stakeholders affected by, and interested in, its day-to-day operations and take steps to accommodate issues and concerns raised through the process of planning forestry activity
- makes information available on its website about the range of activities we undertake, including invitations to participate in development and review of the FMP and regulatory systems such as the IFOA
- provides appropriate training to staff to ensure they maintain competency in stakeholder engagement
- develops specific stakeholder engagement plans to address issues that are priorities for Forestry Corporation or stakeholder groups
- provides a process for dealing with stakeholder complaints in a thorough and timely manner.

STRATEGIC ISSUES-BASED MANAGEMENT

Generally, Forestry Corporation focuses on engaging with stakeholders around forest management operations and land management activities.

Forestry Corporation develops strategies for engagement with specific stakeholder groups or around specific issues of interest to stakeholders and important to the business.

DAY-TO-DAY OPERATIONAL PROCESSES

Stakeholders affected by, or interested in, specific forest operations are identified during the due diligence process in the planning phase. Engagement with stakeholders around day-to-day issues may range from providing information to seeking feedback and consulting on outcomes. This engagement is carried out using a range of tools, which commonly include letters, advertising and notifications in local media and face-to-face meetings.

COMPLAINTS

Forestry Corporation endeavours to resolve all complaints at the earliest opportunity. Forestry Corporation registers complaints and other issues raised by stakeholders with a view to resolving the complaint and using the feedback to inform our risk management and improve our processes.

Information about making a formal complaint and our procedure for dealing with formal complaints is provided on our website.

Management Focus Areas: to be seen as a reliable land manager, good neighbour and corporate citizen and to build relationships with nongovernment organisations.



SERVICES AND FACILITIES

PART OF THE COMMUNITY

With State forests along the coast, in the Riverina, northwest and everywhere in between, Forestry Corporation is part of the NSW community. The Western forest estate includes some 7,500 kilometres of public roads. Each year approximately 5,000 hectares of forest are treated with hazard reduction burns and over 40,000 visitors use the Western State forests for an array of recreational pursuits.

As a component of our engagement process, Forestry Corporation maintains Facebook and Instagram pages: Visit NSW State Forests. Here Forestry Corporation aims to provide information about activities on State forests and promote points of interest to the community. The site is closely monitored, so it also enables individuals to provide feedback or raise concerns which will be promptly attended to by Forestry Corporation.

COMMUNITY SERVICE OBLIGATION

Forestry Corporation provides a number of community services on behalf of the NSW Government. These are funded by CSO funding of approximately \$15 million per year of which \$0.75 million is spent on western forests and managed through a service level agreement between Forestry Corporation and the NSW DPI. The primary services funded by CSO include:

- road maintenance for community use
- community firefighting and prevention
- non-commercial forest management
- recreation and tourism
- government relations and non-commercial community engagement
- DPI research services.

RECREATION AND TOURISM

State forests are available for free public use for a wide range of recreational pursuits including camping, bushwalking, mountain bike riding, trail bike and four-wheel-driving.

Within Western Region, there are a number of State forests that have areas available for free public use. This includes camping and picnic areas lookouts and river bends. The Recreation and Tourism Policy, is available on our website and outlines our approach to managing public use of State forests.

A key tenet of Forestry Corporation's HFD is the commitment to build partnerships with groups using State forests for recreation. Forest permits are used to facilitate formal recreation activities on State forests such as events and tourism infrastructure. Forest Permits are issued for both not-for-profit groups and commercial entities and can be issued for a single day or, in some instances, for longer periods of time. Examples of activities undertaken under Forest Permit include mountain bike races and car rallies.

The level of forest usage by the public varies, with the bulk of tourists visiting coastal State forests.

Within HFD, our approach to recreation and tourism activities is guided by:

- our Recreation and Tourism Policy, which sets the broad objectives of providing the public with access to forests for recreation and tourism
- the Recreation and Tourism Forest Permits Toolkit, which establishes the framework for assessing and managing commercial, non-commercial and community-based activities on State forests
- HFD Recreation and Tourism Strategy, which is aimed at building awareness of State forests as a visitor destination and improving visitor experience in forests.

FOREST PERMITS

State forests offer land rental opportunities for a range of public and commercial activities. These include bee keeping (apiary) grazing of domestic stock, recreation and tourism and public and commercial infrastructure associated with communication, electricity distribution, access roads and mining or extractive industries



GRAZING

Access to State forests for grazing is an opportunity for local communities and assists with fire hazard reduction. Grazing of domestic stock is limited to areas with a grassy understory and reliable water source and may be restricted at times due to operational or environmental considerations.

Grazing must comply with the requirements of the *Local Land Services Act 2013*, particularly in relation to stock identification and management of notifiable diseases. Permits and leases are also subject to local government and Local Land Services rates and levies.

Grazing is managed through the issue of Forest permits and leases. Opportunities are put to tender and successful applicants are determined using competitive pricing. Grazing is limited to Forest Management Zones (FMZ) 3A, 3B, 4, 5, 6 and 7.

In accordance with the IFOA, Forestry Corporation has developed Grazing Management Plans to manage any adverse impacts on the environment by grazing animals.

APIARY

Beekeepers depend on native flora for about 80 per cent of their production.

Forestry Corporation issues beekeeping permits for State forests and Crown Timber land over areas of land known as ranges. Permits are issued which allow apiarists to set down hives in a defined area, unencumbered by other apiary sites. In the year ended 30 June 2018, Forestry Corporation made almost 777 apiculture sites available within Western State Forests and Crown timber lands, with permit areas generally 1.5 square kilometres in size and usually located in native forest.

Ranges are situated in FMZ 3B, 4, 5, 6 and 7. Other FMZ areas (1, 2 and 3A) that have historically been used by apiarists may continue with approval of the relevant Forestry Corporation manager.

FOREST MATERIALS AND PRODUCTS

In addition to timber, a range of other forest products are available and extracted from the forest each year. These include but are not limited to hard rock, sand, gravel, firewood, broom bush and charcoal.

Deposits of hard rock, sand and gravel resources are managed consistent with the provisions of the *Forestry Act 2012*, *Environmental Planning and Assessment Act 1979* and the *Mining Act 1992*.

Forest materials licences can be issued to authorise the extraction of these resources.

Permits are issued for firewood collection in suitable areas, which is generally those that have been recently harvested. Conditions apply to these permits to ensure the activity is consistent with sustainable forest management.



CULTURAL VALUES

ABORIGINAL CULTURAL HERITAGE

Forestry Corporation is committed to protecting and managing Aboriginal cultural heritage in cooperation with Aboriginal communities and in accordance with legislative requirements. Aboriginal cultural heritage includes physical and spiritual sites, places, objects, stories, oral histories, flora, fauna and documents relating to Aboriginal life before and after European contact.

Forestry Corporation manages cultural heritage values on State forest under the provisions of the:

- *National Parks and Wildlife Act 1974*, which provides statutory protection for all Aboriginal objects and Aboriginal places
- Plantations and Reafforestation (Code) Regulation which applies to authorised plantations
- Forestry Corporation's Operational Guidelines for Aboriginal Cultural Heritage Management (A Due Diligence Code of Practice).

The Operational Guidelines for Aboriginal Cultural Heritage Management (A Due Diligence Code of Practice), describes:

- the types of activities Forestry Corporation undertakes, and their potential impacts
- the types of Aboriginal cultural heritage items that may be found on State forest and should be considered during operations
- the cultural heritage assessment process
- the consultative framework Forestry Corporation uses
- operational guidelines, including staff training requirements
- data management requirements.

In addition, Forestry Corporation will:

- explore opportunities to work with Aboriginal people
- respect confidentiality about the location and details of Aboriginal sites and cultural knowledge shared by Aboriginal communities
- refer inquiries from third parties on cultural heritage or sites to local Aboriginal community representatives.

ABORIGINAL JOINT MANAGEMENT OPTIONS

INDIGENOUS LAND USE AGREEMENTS

An Indigenous Land Use Agreement (ILUA) is a voluntary agreement between native title groups and others about the use of land and water. It can be over an area where native title has or has not yet been determined, can be entered into regardless of whether or not there is a native title claim over the area and can be a part of a native title determination or settled separately from the native title determination. They are legally binding agreements and may enable development to take place and address how that development may occur. If the ILUA is registered on the Register of Indigenous Land Use Agreements, it binds all parties and all native title holders to the terms of the agreement.

PARTNERSHIPS AND MEMORANDUMS OF UNDERSTANDING¹

There are a number of approaches joint management can take, but in most cases Aboriginal people who have a cultural association with State forests either gain responsibility for forest management or contribute advice to Forestry Corporation on its management of the forests.

In some cases, joint management arrangements may be entered into whereby Forestry Corporation and the local Aboriginal community may work together on a range of issues including protection of high significance sites, providing access to forests and involving Aboriginal people in management decisions. Formal agreements may take the form of an MOU between Forestry Corporation and Aboriginal communities.

¹ The Forest Agreement identifies the areas that Forests NSW should address to ensure greater Aboriginal involvement in management of Aboriginal culture and natural resources.



Forestry Corporation is committed to establishing meaningful partnerships with Aboriginal communities and will be pursuing opportunities to establish MOUs in the future.

Management Focus Area: have active engagement with Aboriginal groups and traditional owners.

INFORMATION MANAGEMENT

The Aboriginal Heritage Information Management System (AHIMS) is maintained by the Office of the Environment and Heritage (OEH). Forestry Corporation and OEH have an MOU for the supply of information relevant to State forests, which includes protocols for handling, distribution and use of the database information within the organisation.

Forestry Corporation is required under section 89A of the *National Parks and Wildlife Act 1974* to provide OEH with information about new Aboriginal heritage sites.

NON-ABORIGINAL CULTURAL HERITAGE

Non-Aboriginal heritage items and places are those with heritage significance that the community wants to keep for future generations and are subject to the provisions of the *Heritage Act 1977*. Forestry Corporation's Guidelines for Non-Aboriginal Cultural Heritage Management ensure that we:

- engage with relevant stakeholders in management of sites of community interest
- maintain records and spatial datasets of non-Aboriginal heritage items, including in the FMZ system, and consult them during planning processes
- apply appropriate site-specific prescriptions and protection when undertaking forest activities
- maintain the State Heritage Inventory database and link it to spatial representation in Forestry Corporation's GIS
- ensure staff involved in non-Aboriginal heritage management are appropriately trained and competent
- develop management plans for sites where necessary under the *Heritage Act 1977*
- monitor adherence to guidelines and prescriptions during operational implementation
- cease operations in the area if a site is uncovered while the operation is in progress until appropriate assessment and protection measures can be determined
- use GIS to capture and manage site-specific non-Aboriginal cultural heritage information.



OUR STAFF

In 2018 Forestry Corporation employed approximately 634 full time equivalent workers across the State and engaged a considerable number of contractors on its operations. These workers are integral to implementing the FMP and managing the forest estate sustainably.

HEALTH AND SAFETY

Forestry Corporation's goal is to provide a safe place to work for visitors and workers who are affected or impacted by our activities. Our health and safety policy expresses the corporation's commitment to safety. Specifically, Forestry Corporation is committed to taking a proactive risk management approach to work activities in consultation with workers and complying with the *NSW WHS Act 2011*, NSW WHS Regulations 2017 and all other relevant statutory requirements to safeguard the health and safety of staff, contractors and the public in all our activities.

To help achieve these aims, Forestry Corporation maintains a Safety Management System (SMS) that closely reflects the business risk profile and is aligned to Australian Standard 4801:2001 Occupational Health and Safety Management Systems. The SMS contains elements relating to:

- policy
- planning, including how divisions will plan for safety
- implementation, including procedures relating to specific hazards, risk management, training and document control to assist staff in safely carrying out their roles
- measurement and evaluation, including procedures relating to incident reporting and auditing and measurable objectives and targets
- system review, including how we will assess and address safety system performance.

Forestry Corporation has an online system enabling reporting of hazards, near misses and incidents to ensure the risk associated with them is minimised and any improvements identified are incorporated into the system.

Development of workers in terms of safety awareness is an important driver for Forestry Corporation. Equally, we are committed to the health and well-being of all employees in recognition that these factors are vital if individuals are to achieve personal goals and the broader objectives of the organisation.

Management Focus Areas: to develop the resilience of employees and have a workforce committed to positive health and safety outcomes.

PUBLIC SAFETY

The safety of all people who may be impacted by Forestry Corporation's operations is paramount. This includes members of the public as well as workers and is underpinned by the incident investigation and corrective action process.

Areas in which forest operations, such as wood harvesting, are underway are clearly signposted to ensure members of the public are aware of the risks and informed on what they should and should not do. Contractors and Forestry Corporation staff have clear procedures to enable communication to monitor entry.

Forestry Corporation routinely undertakes consultation with local communities as part of the planning process where log truck traffic is expected to increase or be of concern and a dedicated phone number is also advertised on the back of haulage trucks in some areas of the state to encourage members of the public to report poor or exemplary driver behaviour or hazards. Calls are followed up with the haulage contractor and caller to identify appropriate corrective action.

Authorised recreational hunting is permitted in some State forests. Forestry Corporation has completed a risk assessment of hunting on State forests which is available on our website, but hunting on State forests is regulated and licensed by the DPI Game Licensing Unit.



ORGANISATIONAL DEVELOPMENT

Forestry Corporation strives to build on the quality of our people to develop a dynamic workplace of the future. Through this, we equip our people to continue to effectively meet business needs and enhance organisational capability.

Forestry Corporation is committed to ensuring all our people have the appropriate training, education or experience to maximise outcomes and minimise the impact of their work on the environment. We demonstrate industry best practice by focusing on regular up-skilling and re-assessment of core technical skills against units of national competence. Procedures are in place to regularly review staff competencies and each division prepares annual training plans to ensure competencies are maintained.

Forestry Corporation develops leadership capabilities across all levels through the Leadership Excellence at Forestry (LEAF) program which spans from supervisor to senior leader. In addition we identify talent and proactively analyse talent pools for succession planning.

Forestry Corporation has a performance planning framework, which provides a platform for identifying and implementing development opportunities for staff throughout the business and rewards and recognition are incorporated into management practices to acknowledge employees for outstanding contributions in key business areas.

In recognition of the specific requirements associated with fire management, a dedicated policy is in place to ensure fire training currency and competency. Contractors to Forestry Corporation are responsible for ensuring their staff are competent and appropriately skilled or qualified to carry out the work required. Forestry Corporation contributes to industry skills development by requiring contractors working on our operations to meet minimum competency standards and by actively participating in industry forums to share knowledge and encourage capacity building across the sector.

Management Focus Areas: to ensure that staff are productive and motivated and that all staff have individual Personal Development Schemes in place.



FAIR AND EQUITABLE WORKPLACE

Forestry Corporation complies with the provisions of the *Fair Work Act 2009* and the Fair Work Regulations 2009.

Most staff are employed under an enterprise agreement, which has been negotiated with relevant unions and other parties covered by this legislative framework and sets out employment conditions and remuneration arrangements and provides mechanisms for consultation. Some senior staff are employed under individual contract arrangements, which comply with relevant legislation.

The corporation is committed to fostering an inclusive and collaborative workplace culture through implementation of the following principles:

- providing equal opportunities by ensuring appointments to positions are based on capability, performance and potential
- maintaining a workplace free from unlawful harassment, bullying and victimisation
- encouraging a workplace culture that encourages and demonstrates fair practices and behaviours.

Equal employment opportunity planning is also dealt with in State legislation. Workforce diversity obligations are established under section 63 of the *Government Sector Employment Act 2013*.

Forestry Corporation has the following policies to inform workplace strategies and guide management of staff:

- Code of Conduct
- Equity and Diversity Policy
- Managing Unsatisfactory Performance and Misconduct Policy
- Bullying, Harassment and Discrimination Policy
- Managing Excess Employees Policy.

A range of other policies inform staff of the expected behaviours around financial management, use of alcohol and drugs and other workplace issues and outline the organisation's approach to issues like compensation for loss or damage of personal property of employees to ensure a fair and equitable approach.

AHIMS	Aboriginal Heritage Information Management System
AS4708:2013	Australian Standard for Sustainable Forest Management
AS/NZS ISO 14001:2015	Environmental Management System
BRIMS	Bushfire Risk Information Management System
CAR	Comprehensive Adequate and Representative
CRA	Comprehensive Regional Assessment
CSO	Community Service Obligations
DFA	Defined Forest Area
DPI	Department of Primary Industries
ESFM	Ecologically Sustainable Forest Management
FA	Forest Assessment
FMP	Forest Management Plan
FMS	Forest Management System
FMZ	Forest Management Zoning
Forestry Corporation	Forestry Corporation of NSW
FRAMES	Forest Resource and Management Evaluation System
GIS	Geographic Information System
HFD	Hardwood Forest Division
IASG	Inter-Agency Steering Group
IFOA	Integrated Forestry Operations Approvals
ILUA	Indigenous Land Use Agreement
LIDAR	Light Detection and Ranging
LLS	Local Land Service
JANIS	Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-Committee
NFPS	National Forest Policy Statement
MAI	Mean Annual Increment
MOU	Memorandum of Understanding
OEH	Office of the Environment and Heritage
PEFC	Programme for the Endorsement of Forest Certification
P&R code	Plantations and Reafforestation Code
RFA	Regional Forest Agreement
RFS	Rural Fire Service
SEEDS	Social Environmental and Economic Data Storage
SLA	Service Level Agreement
SPD	Softwood Plantations Division
SOC	State Owned Corporation
SOP	Standard Operating Procedures
WHSMS	Work Health and Safety Management System