



FOREST MANAGEMENT PLAN

for and on behalf of

The Trust Company (PTAL) Limited in its capacity as trustee of the
Tasmanian Forest Investment Sub Trust (TFIST)

The Trust Company (Aus) Limited in its capacity as trustee of the
Tasmanian Forest Operating Sub Trust (TFOST)

and

Forico Pty Limited as Forest Manager (Forico)

August 2023



Queries, comments and feedback welcomed.
Please contact forico@forico.com.au or send comments to:
Forico Pty Limited
PO Box 5316
LAUNCESTON TAS 7250

Cover Photo: Moss on branch at Companion Fire Tower access track

Photographer: Ann La Sala

TABLE OF CONTENTS

1.	OVERVIEW.....	1
2.	PURPOSE.....	2
3.	MANAGEMENT OBJECTIVES	2
3.1	<i>Safety, Health and Environmental (SHE) Management System</i>	<i>3</i>
3.2	<i>Legislative Context and Requirements.....</i>	<i>3</i>
4.	FOREST RESOURCE DESCRIPTION	4
4.1	<i>Environmental Management Compliance.....</i>	<i>7</i>
4.2	<i>Ownership Status and Land Use</i>	<i>7</i>
4.3	<i>Profile of Adjoining Lands.....</i>	<i>7</i>
4.4	<i>Previous Land Use.....</i>	<i>7</i>
4.5	<i>Aboriginal Peoples Rights.....</i>	<i>7</i>
4.6	<i>Stakeholders.....</i>	<i>8</i>
5.	SOCIO-ECONOMIC ASSESSMENT.....	9
5.1	<i>Tasmanian Regional Profile.....</i>	<i>9</i>
5.2	<i>Socio-Economic Impacts</i>	<i>11</i>
5.3	<i>Social Performance Indicators.....</i>	<i>12</i>
6.	SILVICULTURAL SYSTEMS.....	12
6.1	<i>Softwood Plantations.....</i>	<i>13</i>
6.2	<i>Eucalypt Plantations.....</i>	<i>13</i>
6.3	<i>Plantation Establishment.....</i>	<i>13</i>
6.4	<i>Fertiliser Application</i>	<i>14</i>
6.5	<i>Tree Improvement.....</i>	<i>14</i>
6.6	<i>Monitoring of Silvicultural Systems</i>	<i>15</i>
6.7	<i>Permanent Natural Vegetation Estate.....</i>	<i>15</i>
7.	RATE OF HARVEST AND SPECIES SELECTION.....	16
7.1	<i>Annual Harvest Rates.....</i>	<i>16</i>
7.2	<i>Species Selection.....</i>	<i>16</i>
7.3	<i>Non-Timber Forest Products (NTFPs)</i>	<i>16</i>
8.	MONITORING OF FOREST GROWTH.....	17
8.1	<i>Inventory.....</i>	<i>17</i>
8.2	<i>Permanent Growth Plots</i>	<i>17</i>
8.3	<i>Growth Models.....</i>	<i>17</i>
8.4	<i>Harvesting Reconciliation</i>	<i>18</i>
8.5	<i>Quality Assessment of Operations.....</i>	<i>18</i>
8.6	<i>Carbon Accounting.....</i>	<i>18</i>
9.	ENVIRONMENTAL ASSESSMENTS AND SAFEGUARDS.....	18
9.1	<i>Landscape Level Assessments</i>	<i>18</i>

9.2	<i>Site-Specific Assessments</i>	20
10.	THREATENED SPECIES MANAGEMENT	24
10.1	<i>Identification and Assessment of Threatened Species</i>	24
10.2	<i>Staff Training</i>	24
11.	GEOGRAPHIC INFORMATION SYSTEM (GIS).....	24
11.1	<i>Resource Information Platform</i>	25
11.2	<i>Key Datasets</i>	25
12.	HARVESTING EQUIPMENT AND TECHNIQUES.....	26
12.1	<i>Ground-based Harvesting Systems</i>	26
12.2	<i>In-field chipping</i>	26
12.3	<i>Cable Harvesting Systems</i>	27
12.4	<i>Plantation Thinning</i>	27
12.5	<i>Harvest Operations Monitoring</i>	27
13.	ASSET PROTECTION.....	27
13.1	<i>Fire Protection</i>	27
13.2	<i>Plantation Health and Integrated Pest Management Plans</i>	29
14.	PRODUCT PROCESSING, MARKETING AND RESEARCH.....	30
14.1	<i>End Uses of Forest Products</i>	30
14.2	<i>Export of Wood Fibre</i>	30
14.3	<i>Carbon and Core Benefits</i>	30
14.4	<i>New or Future Market Opportunities</i>	31
14.5	<i>Natural Capital Accounting</i>	31
14.6	<i>Research</i>	31
15.	PLAN REVIEW	32
16.	KEY TASMANIAN AND COMMONWEALTH LEGISLATION	32

1. OVERVIEW

Forico Pty Limited (Forico) is an integrated timber plantation, forest management, and forest products export business operating within Tasmania. Forico manages **172,590** hectares of forestry estate, as well as affiliated processing operations. The Forico plantation estate includes approximately **88,366** hectares of sustainable hardwood and softwood timber plantations, primarily *Eucalyptus nitens* located across Tasmania.

Forico has an office located in Launceston, Tasmania with a regional office at Ridgley, in north-west Tasmania. The Forico seedling nursery is a purpose-built facility located in north-west Tasmania that typically produces 6-8 million seedlings to meet annual demands, but has the capacity to grow up to 18 million seedlings per annum.

Processing and exporting assets are strategically located within Tasmania to optimise harvesting and management of the plantation estate. Assets include:

- Long Reach Mill;
- Surrey Hills Mill;
- Outsourcing / sub-contracting at TasPorts Burnie Port; and
- Forico Fibre Technology Laboratory.

With these key assets, Forico has a long-term vision to manage, commit and contribute to a sustainable plantation forestry sector in Tasmania, producing high quality internationally certified plantation timber products while meeting independently-verified sustainable forest management standards. Forico has the supply chain infrastructure and marketing capabilities in place to efficiently manage the entire supply chain from seed to market.

The Forico-managed estate consists of its Defined Forest Area (DFA), also known as the Forest Management Unit (FMU). The FMU encompasses all land and forest over which the company has management control.

Forico is committed to sustainable forest management, including the harvesting of forest products from hardwood and softwood plantations. Forico is currently certified to the:

- International Standards Organisation - ISO14001 for Environmental Management Systems;
- Australian Standard - Sustainable Forest Management AS/NZS 4708;
- Australian Standard - Chain of Custody for certified wood and forest products AS4707;
- FSC Forest Management Standard – FSC National Forest Stewardship Standard of Australia (FSC-STD-AUS-01-2018);
- FSC Ecosystem Services (FSC-PRO-30-006);
- FSC Standard for Multi-Site Certification of Chain of Custody Operations FSC-STD-40-003;
- FSC Standard for Chain of Custody Certification FSC-STD-40-004;
- FSC Standard for Company Evaluation of FSC Controlled Wood FSC-STD-40-005; and
- Requirements for the Competence of Testing and Calibration Laboratories ISO 17025.

Forico's activities include:

- Plantation establishment and maintenance;
- Plantation harvesting, extraction, transportation and marketing;
- Managing a forest nursery and tree improvement operations;
- Roading and quarrying works;
- Provider of plantation sawlogs to domestic markets;
- Provider of plantation logs for export log markets;
- Processing of plantation timber for export woodchips;
- Provision of export services (woodchip handling, storage and ship loading); and
- Maintenance, management and monitoring of the natural vegetation estate for biodiversity and conservation outcomes

2. PURPOSE

The purpose of this *Forest Management Plan* is to communicate the management objectives and principles which apply across the Forico FMU.

This *Forest Management Plan* forms an integral part of the systematic management system (see Figure 1) and should be read in conjunction with the *High Conservation Value (HCV) Assessment and Management Plan*, and other site-specific operational plans and manuals, for example Forest Practices Plans.

Figure 1. Forico Planning and Assessment Process

Obligations and Commitments	FORICO Policies, Strategic Plan
	Management System
Overarching Instructions	Forest Management Plan
Overarching Assessments	HCV Assessment and Management Plan
Operational Level Planning and Assessment	Operational Specific Plans, Manuals, Procedures, Checklists

3. MANAGEMENT OBJECTIVES

The primary objective of Forico is to manage a sustainable plantation forestry business, whilst protecting environmental values and fostering communication through constructive and meaningful relations with stakeholders. Sustainable management of the FMU is seen as vital to the maintenance of the Forico forestry business.

Strategic objectives encompass:

1. **Sustainability** – *We operate safely with regard to sound environmental, social and governance principles.*
2. **Customers** – *We are easy to do business with, reliable and deliver high quality products and returns to investors.*
3. **People** – *We promote inclusivity and foster an environment where people can flourish.*

3.1 Safety, Health and Environmental (SHE) Management System

Forico is committed to providing a safe and healthy environment for all employees, contractors, customers and visitors in the workplace.

To achieve these objectives, Forico implements a Safety, Health and Environmental (SHE) Management System, to implement company policies and procedures that allow corporate objectives to be achieved. The SHE management system focuses on:

- Ensuring continued compliance to all relevant legal obligations and requirements for Safety, Health and Environmental Management.
- Ensuring compliance to the structural system requirements and overall objectives of voluntary certification schemes against which Forico is certified.
- Providing other aspects of the business with sound systematic management protocols.

The SHE Management System is based on continual improvement and comprises a series of linked business processes within a “Plan-Do-Check-Act” cycle. In many cases the business processes are necessary to achieve or maintain compliance to legal and relevant voluntary requirements, or to implement specific company policies. In all cases the underlying intent is to manage and mitigate risks to safety, health and the environment associated with undertaking business activities.

Forico company policies form the cornerstone of the SHE Management System. These policies include:

- *Environmental Sustainability Policy;*
- *Work, Health and Safety Policy;*

Copies of these Policy documents are available from the Forico website (www.forico.com.au).

A critical element of the SHE Management System for forest operations involves the identification, assessment and management of hazards, and risks associated with the planning and undertaking of operations. Forico lists and ranks aspects associated with company activities, based on a systematic and traceable risk assessment methodology. All ‘significant aspects’ (higher risk elements) are examined more closely. Because of this systematic approach to risk management, Forico ensures that activities are undertaken with a final risk profile that meets a “zero harm” objective. These Aspects, their associated Impacts, and the Assessments that nominate control measures to address risk are developed and maintained in Forico’s ‘Canopy’ Information Management platform.

3.2 Legislative Context and Requirements

All key legal and other voluntary commitments or requirements (such as Commonwealth or State legislation, third-party independently verified Standards, voluntary agreements or policies) relating to Forico, have been identified to ensure these requirements are considered in establishing, implementing and maintaining the SHE Management System. Key legislation is identified in Section 16 of this document.

To ensure activities undertaken within the Forico FMU adhere to all applicable legislation, any updates to all the current *Commonwealth* and *State* government acts and regulations are made available to relevant staff through an external third-party website. This process ensures all employees are made aware of the current State and Commonwealth legislation. Internal controls are implemented and monitored to measure ongoing compliance.

Forestry activities in Tasmania are regulated under the forest practices system, legislated through the *Forest Practices Act (1985)*, and administered by the independent statutory authority the Forest Practices Authority (FPA).

Forest practices in Tasmania require the production of a certified, legally binding Forest Practices Plan (FPP) which must be prepared in accordance with the *Forest Practices Code 2020 (FPC)*. The FPC provides a set of legally enforceable guidelines and prescriptions to ensure management and protection of the natural and cultural values of the forest during forest operations.

The General principles, Operational Approach, and Outcome sections in the FPC address activities associated with forest practices, including:

- Building access to the forest;
- Harvesting of timber;
- Conservation of natural and cultural values (soil and water, geomorphology, visual landscape, flora, fauna and cultural heritage);
- Establishing and maintaining sustainable, healthy forests; and
- Management and prevention of pollution including fuels, oils, rubbish, and emissions.

There are additional codes of practice that regulate forest activities in Tasmania including:

- *Code of Practice for Aerial Spraying 2002* (updated November 2014);
- *Code of Practice for Ground Spraying 2001* (updated November 2014);
- *Quarry Code of Practice 2017*; and
- *Forest Safety Code 2021* (approved Code of Practice enforced by the *Work Health and Safety Act 2012* and associated Regulations).

Forico is committed to comply with Commonwealth and State legislation which prohibits receiving or offering bribes in money, or any form of corruption. This is articulated through internal management system procedures.

Operational compliance to the legal and other voluntary requirements is achieved through regular internal and external auditing.

4. FOREST RESOURCE DESCRIPTION

The productive component of the FMU is comprised of hardwood (*Eucalyptus nitens* and *Eucalyptus globulus*) and softwood (*Pinus radiata*) plantations, covering **88,366** hectares. The FMU also includes **76,976** hectares of natural vegetation. Areas of natural vegetation on the freehold estate are managed as natural vegetation exclusively for conservation and biodiversity benefits and are not subject to commercial timber harvesting activities.

The hardwood estate accounts for approximately **86%** of the plantation area (net planted area basis), with the softwood estate making up the remaining **14%**. These plantations are grown to produce fibre for the pulp and paper industry and solid wood products for the structural and veneer timber markets. Table 1 summarises the area managed by Forico in Tasmania.

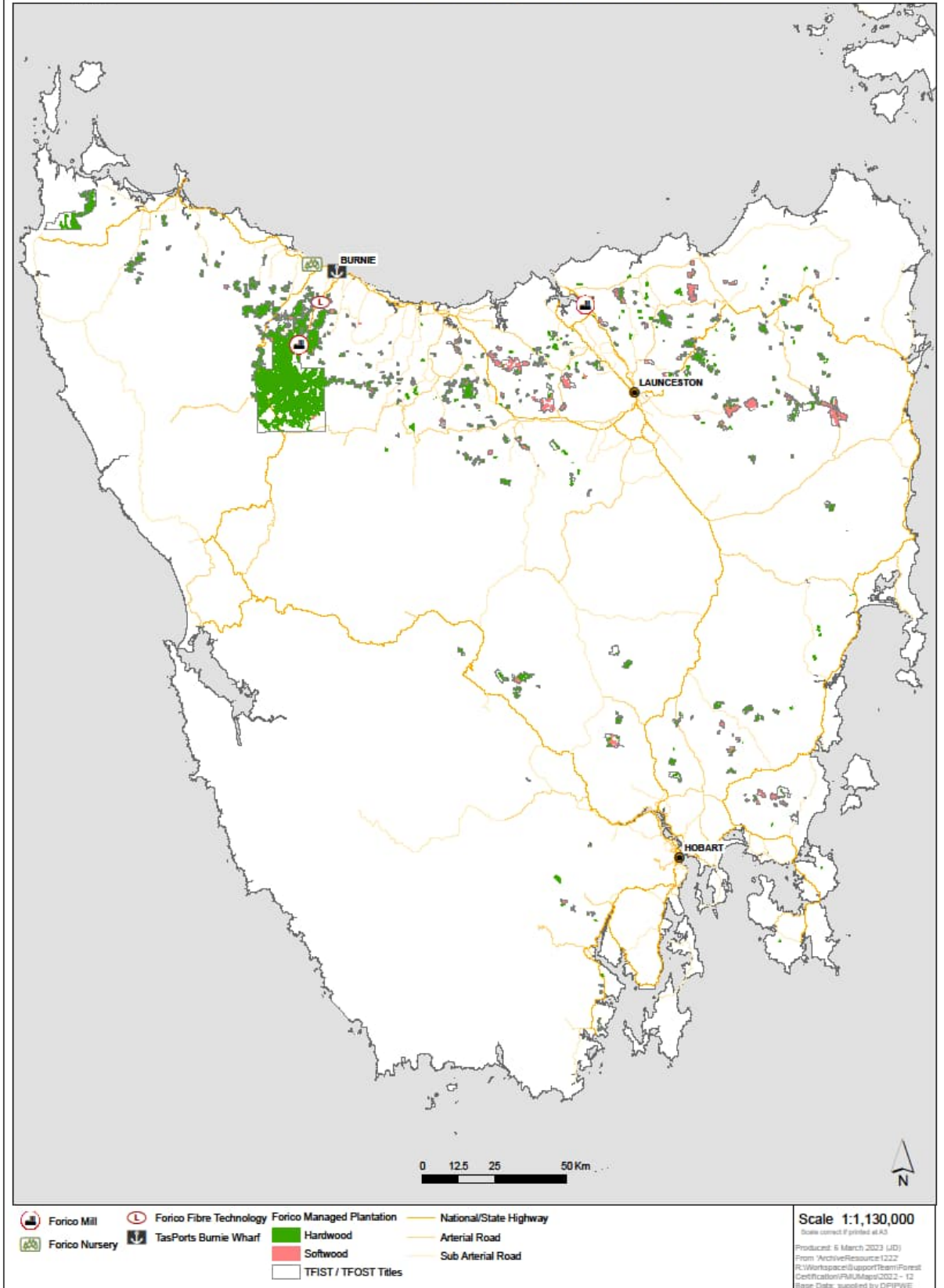
The FMU is located across all regions of Tasmania, with resource situated in south-east, north-east and north-west Tasmania as presented in Map 1. In north-west Tasmania, a large proportion of the FMU occurs in two largely contiguous areas, Surrey Hills and Woolnorth. The remaining area comprises smaller, scattered properties ranging in size from several hectares to over 3,000 hectares, generally located inland from Tasmania's north coast both to the west and east of the city of Burnie.

In north-east Tasmania, the estate is dispersed in small to moderate sized holdings. In south-east Tasmania, the estate is mainly located north of Hobart in small to moderate sized holdings.

Table 1. The Forico Forest Management Unit

PERMANENT ESTATE	Area (Hectares)
Net Plantation Area	86,447
Natural vegetation	76,976
Infrastructure and Other	7,248
Sub-Total	170,671
SEMI-PERMANENT ESTATE	
Net Plantation Area	1,919
TOTAL	172,590

Forest Management Unit



Map 1: The Forico Forest Management Unit

4.1 Environmental Management Compliance

All Forico forest operations are undertaken in accordance with the relevant State and Commonwealth legislation and other voluntary requirements (including certification obligations), the FPC, Environmental Protection Notices, and other regulatory instruments.

The Forico FMU has numerous operational constraints that arise from environmental compliance. Forico maintains a comprehensive Geographic Information System (GIS) which spatially records information relevant to the protection and maintenance of production, environmental, social and cultural values. The GIS delineates operational exclusion and reserve areas and contains environmental information such as known localities of threatened species and additional biodiversity values, soil types, stream catchments, geo-conservation, and visual landscape features. Areas of productive hardwood and softwood plantations are also incorporated into the coverage. This information is used during operational planning primarily in the development of site-specific operational management prescriptions, as well as for strategic, landscape-level planning.

4.2 Ownership Status and Land Use

The Forico FMU is managed under two principal land estate classifications - the permanent and semi-permanent estate.

The Forico Forest Management Unit is made up of the permanent and semi-permanent estates. The permanent estate comprises freehold land owned by the Trust Companies and managed by Forico. The semi-permanent estate comprises plantation areas managed by Forico on third party land and share farms.

4.2.1 Permanent Estate

The freehold estate managed by Forico is the result of decades of land acquisition and sale. The Permanent Estate consists of **170,671** hectares, including **86,447** hectares of plantation, **76,976** hectares of native vegetation, and **7,248** hectares of infrastructure and non-plantation areas.

4.2.2 Semi Permanent Estate

The Forico semi-permanent estate consists of plantations on land owned by other parties where Forico maintains legally definable management control. Typically, this management control is in the form of equity via a plantation growing contract, a current Forest Practices Plan, or a third-party agreement. The size and location of the semi-permanent estate will change over time. These changes occur in response to the approval of Forest Practices Plans for the harvesting of private third-party plantation resources (that may incorporate establishment of new plantations and growing contracts) and periodic expiry of FPPs and plantation growing contracts.

In summary, for the semi-permanent estate, Forico can demonstrate management control and legal rights over the forest operation.

The semi-permanent estate currently consists of **1,919** hectares of plantation.

4.3 Profile of Adjoining Lands

Land adjoining the FMU is used for a broad range of purposes, including formal and informal reserves, agriculture, tourism, residential, industrial, recreational uses and forestry.

4.4 Previous Land Use

A proportion of the estate is currently in its fourth plantation rotation. All land conversion from natural forest to plantations was undertaken by the previous owners. The previous land use for all areas of the plantation estate is documented within the Forico GIS.

4.5 Aboriginal Peoples Rights

There are no known conflicts relating to land tenure within the FMU and no Aboriginal and Torres Strait Islander peoples have been identified with customary or traditional rights to forest resources (timber and non-timber) within the FMU.

Legal rights are prescribed under Australian law. *The Commonwealth Native Title Act (1993)* provides a mechanism by which native titles rights can be negotiated and recognised under Australian law. Within Tasmania, the *Aboriginal Land Act 1995* also applies. Through Native Title the right for 'exclusive possession' can only be recognised over unallocated or vacant Crown Land and some areas already held by, or for, Aboriginal and Torres Strait Islander peoples. No land within the FMU is classified within these categories. Notwithstanding the above, Forico recognises the importance of land and traditional sites. Forico recognises that Aboriginal and Torres Strait Islander peoples may have interests in the FMU for:

- Access to the area for traditional purposes, such as ceremonies;
- Visits to important culturally sensitive sites;
- Gathering of traditional resources, such as ochre and food; and
- Education to teach law and customs.

To this end, stakeholder engagement with Aboriginal groups forms an important component of the Forico business strategy. Forico entered into a Reflect Reconciliation Action Plan (RAP) in 2020, and is continuing its involvement in the reconciliation process by developing an Innovate RAP.

4.6 Stakeholders

Forico is committed to involving stakeholders, in order to maintain a healthy social environment in which to operate. Social diversity is respected, and, where appropriate, cultural sensitivities are taken into account, including the acknowledgement of people's spiritual or traditional connection with the land.

Clear and timely communication with stakeholders is encouraged, with the building of trust and positive and productive stakeholder relationships. Continual improvement is promoted, to refine the approach through feedback and constructive dialogue with a wide cross section of stakeholders.

Forico has developed a *Stakeholder Engagement Policy* and *Stakeholder Engagement Plan* that:

- Defines Forico's approach to stakeholder engagement;
- Identifies who Forico is likely to engage with;
- Describes how Forico engage and what we are trying to achieve; and
- Identifies opportunities to improve the quality of engagements.

Forico maintains a readily accessible and comprehensive database of interested and affected stakeholders within the 'Canopy' Information Management Platform. A diverse range of organisations, groups, individuals are incorporated into the database. The relevance and currency of the database is reviewed periodically.

Forico has a set of protocols and guidelines that defines the process of stakeholder identification, and how to adequately respond to stakeholder concerns (e.g.: grievances, complaints, and disputes).

Communication / engagement with stakeholders is managed through a variety of platforms. Direct interactions, meetings, phone calls and email correspondence are examples. Interested and affected stakeholders can access the Forico website (www.forico.com.au) to find information and leave messages for the company expressing queries or comments. The website incorporates key company policies and related and relevant publications. Maps illustrating the location and distribution of the FMU are also available, including the *Forest Management Plan* and the *HCV Assessment and Management Plan*.

Forico recognise that despite its best efforts, there will be instances when engagement could have been better, or some stakeholders are not happy with the final outcome. All complaints, disputes and grievances are monitored and addressed in a professional manner. Forico has developed a *Complaint and Dispute Resolution Procedure* to ensure complaints are resolved as soon as possible.

As part of the wider Tasmanian forest industry, Forico is a subscriber to the *Tasmanian Forest Managers Good Neighbour Protocol*, which aligns to Forico's own principles of operating in an open, transparent and respectful fashion.

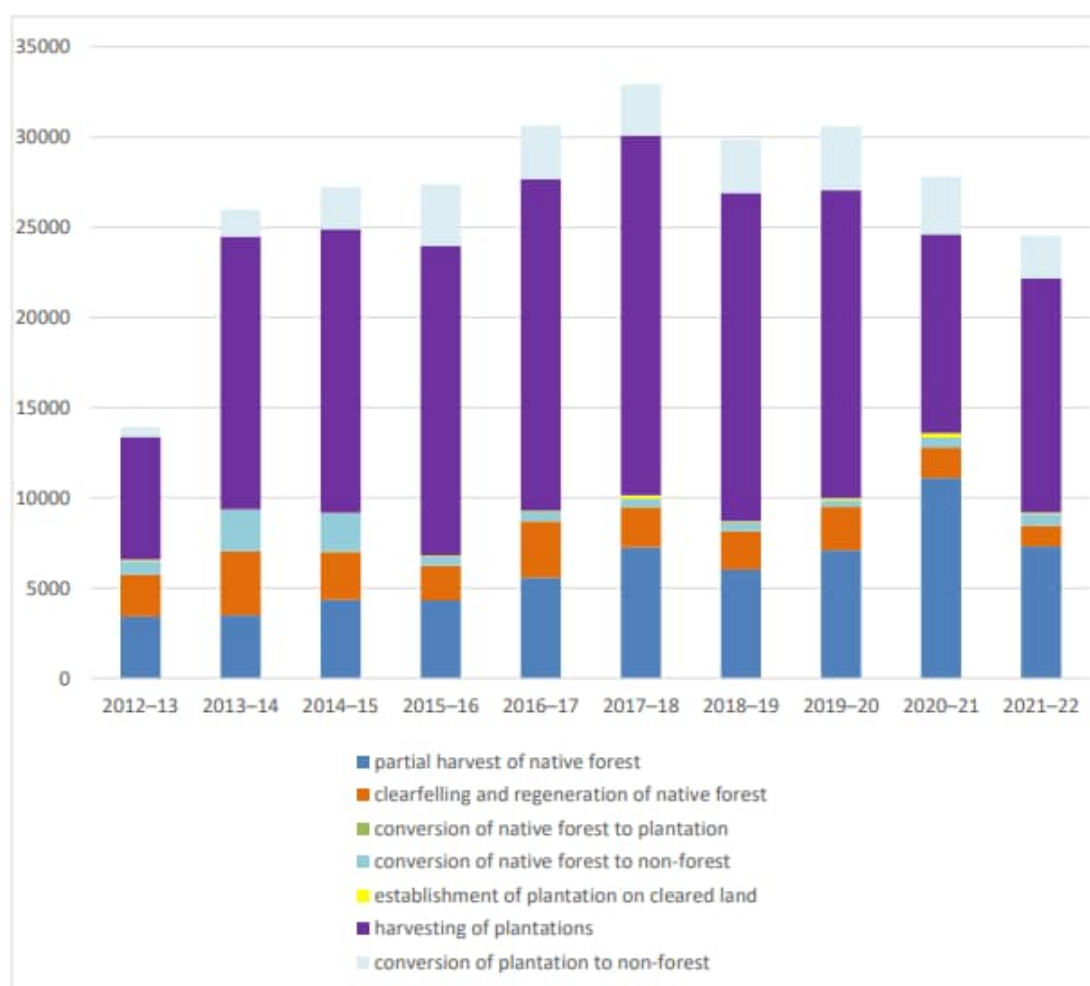
5. SOCIO-ECONOMIC ASSESSMENT

5.1 Tasmanian Regional Profile

The Tasmanian forest industry has undergone substantial change in the past two decades. In about 2008, a significant downturn in industry activity, driven primarily by the global financial crisis, customer demands, appreciation of the Australian dollar, and other associated factors resulted in the loss of thousands of jobs in the industry. The impacts of the downturn on forest industry businesses, workers, their families, and communities dependent on the forest industry was profound. Many people lost employment, many of those remaining in the industry experienced a decline in income, and many members of the industry experienced considerable stress and uncertainty.

Within Tasmania, there has been a fundamental shift with respect to forestry operations since this critical period. The FPA has prepared the following graph that quantifies the movement in type of operation proposed in Forest Practices Plan applications. Conversion of natural forests to plantations has decreased dramatically in recent years.

Figure 2. Tasmanian Forest Practices Plans: Changes Over Time



Source: Forest Practices Authority, Annual Report 2021 – 2022.

Over the past two decades there has been a rapid expansion of the eucalypt plantation estate in Tasmania; whilst in the native forest sector an ongoing reduction in the quantity and quality of sawlogs available from natural forests (both public and private resources) has occurred.

Markets for forest products have also changed. In the structural sawn timber market, softwood plantation timber has increasingly competed with timber sourced from native forests, while demand for

appearance-grade products manufactured from natural forest species has remained relatively strong. In addition to changes in wood resources and markets, business costs had grown more rapidly than revenue over the past 10 to 20 years and increasing legislative and regulatory requirements has contributed to increased operating costs.

Tasmania has a strong dependence on primary industries for its economy and employment. The FMU is located within areas managed by nineteen Local Government Authorities (LGAs). Agriculture, primarily dairy, beef cattle, sheep, grain growing and cropping are the main industry for the majority of these LGAs, with forestry and tourism also featuring as significant contributors to the regional economy.

Several reports on the socio-economic context for the forest industry in Tasmania were published in the last decade. In May 2018, the University of Canberra, funded by the Forest and Wood Products Australia (FWPA) and the Australian Government Department of Agriculture and Water Resources, produced a report entitled *Socio-economic impacts of the forest industry, Tasmania*. Data was drawn from a survey of forest industry businesses done in 2017-18, ABS data from 2006, 2011 and 2016, output from a regional economic model, and the 2016 Regional Wellbeing Survey.

This report describes the recent socio-economic trajectory of the forest industry in Tasmania, focussing on employment loss and the shift of activities across the state from native forests to plantations. The three major sectors of the forest industry have undergone quite distinct changes in the last decade, with native forest harvest volumes dropping by two-thirds, softwood plantations remaining stable, and hardwood plantation harvests experiencing a dramatic downturn during the GFC, followed by strong growth - 2016 harvest volumes were twice those reported in 2008. Employment in the Tasmanian forest industry declined by 55% between 2006 and 2016, however rates of job loss in the plantation sector were less than half those in the native forest sector. Industry employment experienced a dramatic downturn during the Global Financial Crisis (c. 2008-11) but has generally stabilised since 2013. The majority of jobs are being generated in the processing sector, with plantation-related businesses such as Forico experiencing a more positive business climate than those involved in native forest harvesting.

Selected statistics from the report include:

- The industry's contribution to Gross Regional Product – the regional equivalent of Gross Domestic Product - was \$314 million in 2016, with a total of \$615 million when flow-on effects to the broader economy were included. 76% of this contribution was generated by the plantation sector. The overall industry contribution equates to 2% of the total for Tasmania.
- A total of 2,714 direct jobs were generated in the Tasmanian forest industry up to the point of primary processing in 2017-18, with 60% of these in the plantation sector.
- A further 362 jobs were generated by secondary processing activities, and an additional 2651 jobs were generated in other industries due to flow-on effects.
- 82% of forest industry workers are employed on a full-time basis in 2016, compared to the state average of 60% for other industries. Income levels for full-time workers were similar.
- In 2017-18, five local government areas had more than 5% of workers employed in the forest industry. Of these, Dorset, Circular Head, George Town and the Central Highlands are in the northern half of the state (where the majority of Forico's operations are) and Derwent Valley is in the central region.
- In areas with a higher dependence on the forest industry, residents generally acknowledged the importance of the industry to their communities (67-83% of those surveyed). However, these perceptions related mainly to employment benefits, with the forest industry perceived to have more negative effects than farming and tourism, mainly relating to impacts on roads and visual landscapes.

Additionally, the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) research publication "*Australian Plantation Statistics and log availability report 2021*" has been reviewed as part of the Forico socio-economic assessment. The publication provides an overview of the national plantation estate, assessed at a regional level (state or territory). The information supports strategic forest industry planning and decision-making by presenting information on total plantation area, new planting, and ownership.

Some statistics, specific to Tasmania, drawn from the report include:

- Plantation establishment in Tasmania peaked between 2006-2010, with a second peak observed in 2016-2020. The majority of these plantations are hardwood.
- Tasmanian plantation area has declined since 2009-10 driven by contractions in the hardwood estate as some privately-managed plantations and ex-Managed Investment Scheme plantations were converted to other uses
- Tasmanian log availability is dominated by hardwood pulplogs but with increasing softwood sawlogs available from 2045, the increase in hardwood sawlog availability from 2020 is due to maturing stands planted between 2001 and 2010.

5.2 Socio-Economic Impacts

In conjunction with local stakeholders, including forest industry, the community and environmental groups, Forico undertakes evaluation of socio-economic impacts associated with plantation management activities in the local government areas of Tasmania.

Forico has participated in a number of research and advisory groups related to socio-economic impacts of forestry, including the Socio-Economic Working Group convened by the Forest Practices Authority, the Rural R & D for Profit Programme, as part of Forest and Wood Products Australia, and the “Business case for trees on farms” project at the ARC Centre for Forest Value.

Forico is a member of several research and industry groups, including:

- Tasmanian Forest and Forest Products Network (TFFPN). Provides a platform for all those people who either work within or who support a productive and sustainable forest industry in Tasmania.
- ARBRE Forest Industries Training and Careers Hub. An industry-led organisation in Tasmania to promote the forest industry and related jobs;
- ARC Centre for Forest Value. The centre will develop graduates and postdoctoral fellows with broad perspectives of the forest industry to achieve integration and flow of information between (i) production and environmental tree plantings and (ii) the supply chain from the forest to the final use of the product.
- Australian Forest Nursery Association;
- Australian Forest Operations Research Alliance. An alliance between University of Sunshine Coast and Australian Forest Managers aimed at jointly funding research into Australian forest supply operations;
- Australian Forest Products Association (AFPA). The peak national industry body covering the forest products value chain;
- Forest and Wood Products Association Australia (FWPA). A collaborative industry services company to determine strategy, invest in effective and relevant R&D and deliver programs designed to grow the market for forest and wood products. Forico also participates in the FWPA Growers Research Advisory Committee (GRAC);
- Forest Industry Fire Management Committee. Serves as a forum for the sharing of resources and fire expertise to address common issues and to foster an exchange between members and stakeholders to facilitate forest fire safety and prevention.
- Forest Pest Management Research Consortium. An Australian forest industry collaboration developed to investigate plantation pesticide technology and research alternative products approved for application by plantation forest managers;
- National Institute for Forest Products Innovation. Co-funded by the Australian and Tasmanian governments to promote and encourage innovation in Australia’s forest and wood products industry (Board member);
- Relationships with NRM groups, Schools and Universities, Government Agencies (e.g.: CSIRO, NRM Cradle Coast; NRM South, NRM North; University of Tasmania (UTas));
- Tasmanian Forest Practices Authority (FPA). Representation within several reference groups, including Forest Practices Officer Reference Group and the Forest Practices Advisory Council;
- Tasmanian WHS Committee. Representative Industry Group which reviews and discusses safety trends, issues and other safety matters relevant to the forest industry in Tasmania. The

group has representation from private sector, public sector, Regulators, Training Providers and Industry representative groups;

- Reconciliation Tasmania and Reconciliation Tasmania Collective;
- Tree Breeding Australia;
- Tree Breeding Australia Eucalypt Program Steering Committee;
- Tree Breeding Australia Technical Advisory Committee;
- Tree Breeding Australia Pine Advisory Committee;
- Tasmanian Agricultural Productivity Group; and
- University Associate in the School of Biological Sciences (Utas; PhD sponsor);
- Western District Bushwatch Committee.

Forico staff have also participated in several broader regional based socio-economic studies, such as that undertaken by the Commonwealth and State governments, and this has contributed to Forico's knowledge and evaluation of socio-economic impacts associated with plantation management activities at a district, regional, or national level.

At **July 2023** Forico employed **127** fulltime equivalent (FTE) staff throughout Tasmania, in addition to approximately **450** contractors, supplying approximately 1.5 million tonnes of plantation forest products to customers annually.

Independent, external research and studies on the socio-economic impacts of plantations is ongoing, In the past, research was conducted by the Cooperative Research Centre (CRC) for Forestry "Communities Project", which investigated research into the social fabric and dimensions of Australians forest industry. Two significant reports were subsequently published:

- *Socio-economic impacts of forest industry change: a baseline study of the Tasmanian forest industry.* Schirmer, J., Dunn, C., Dare, M. (2009); and
- *Socio-economic impacts of the plantation industry on rural communities in Tasmania.* Schirmer, J. (2009).

The Tasmanian Department of State Growth commissioned the University of Canberra to provide information detailing trends in forest industry employment and production to November 2013:

- "*Socio-economic Impacts of Forest Industry Change. Tasmanian Forest Industry Employment and Production, 2012-13.*" Schirmer, Dunn, Loxton (October 2014).

Statistics and data derived from these studies are still relevant in the current operating environment.

Forico will become actively involved in any future socio-economic research opportunities and will modify existing company policies and procedures if a new direction is advocated to minimise negative socio-economic impacts whilst optimising positive measures.

5.3 Social Performance Indicators

The key socio-economic impacts and issues associated with plantation activities in Tasmania include:

- Community engagement (e.g. the Coordinated Smoke Management System);
- Land use planning policy and compliance;
- Integrated pest and disease management;
- Fire management; and
- Plantation water use.

6. SILVICULTURAL SYSTEMS

The evaluation and selection of a silvicultural system for the FMU, is based on recognised forest practices and guidelines, taking into account management objectives for the specific site. The primary objectives in selecting a fit-for-purpose silvicultural system is to maximise the value of wood products grown and harvested from the land whilst maintaining the long-term productivity of the land and other environmental values.

In determining the appropriate silvicultural system, several factors need to be considered. These

include, but are not limited to:

- Plantation management objectives;
- Species and regime selection;
- Rotation length;
- Site environmental factors;
- Natural and cultural values;
- Fire management requirements;
- Commercial / marketing factors;
- Plantation investment requirements;
- Lease agreement terms and conditions;
- Operational constraints; and
- Community expectations.

Additional information, policies and procedures regarding plantation management and silvicultural systems utilised by Forico are prescribed within the Canopy Information Management platform.

6.1 Softwood Plantations

Pinus radiata (Monterey Pine) is currently the only species of softwood planted by Forico on a commercial scale within the FMU. *Pinus radiata* is frost-resistant, tolerant of dry sites and capable of satisfactory rates of growth on less fertile sites. Within the FMU, *Pinus radiata* is planted in accordance with strategic management requirements.

Pinus radiata is grown primarily as a sawn timber resource. Although silvicultural prescriptions will vary from site to site, a typical regime may involve two or three thinning operations (extraction row harvest followed by two bay thinnings) with a final clearfall at around age 28 – 30 years.

As part of the Strategic Plan, Forico is reviewing which plantation species are to be established on each operational area throughout the FMU to “make every hectare count”. Where *Eucalyptus nitens* or *Eucalyptus globulus* are not considered the species of choice in subsequent rotations, then alternative plantation species are being considered. *Pinus radiata* is currently the preferred alternative species where the existing *Eucalyptus* plantation is not performing, for example due to low-rainfall sites with soils of lower nutritional value. The replacement of the plantation species has the obvious potential of improving the productivity on the site. Additionally, by avoiding establishing plantation species that become stressed, susceptible and vulnerable to insect attack, Forico will reduce the necessity to apply insecticides such as alpha-cypermethrin.

6.2 Eucalypt Plantations

Two species of Eucalyptus are utilised in plantations across the FMU and are best suited to sites with reasonable fertility. *Eucalyptus globulus* (Tasmanian Blue Gum) and *Eucalyptus nitens* (Shining Gum) are planted dependant on site factors which are assessed in relation to either species’ relative strengths.

Broadly speaking, *Eucalyptus nitens* is not planted above 750m in altitude, and *Eucalyptus globulus* is not planted over 300m, unless overriding local site conditions warrant establishment. Care must be taken to avoid frost hollows when planting *Eucalyptus globulus*, however *Eucalyptus nitens* is more tolerant to cold air temperatures.

Rotation length of the eucalypt plantations varies according to site quality and end product objectives. Eucalypt plantations inherited by Forico were managed for pulpwood production and are aged 12 to 15 years at the time of final harvest. Forico has now determined that the more productive sites located within the FMU can be thinned and grown as longer rotations to produce higher value products.

6.3 Plantation Establishment

Providing seedlings with the best opportunity to survive is critical to achieving a quality productive crop. Operations at establishment aim to:

- Remove excessive competition (weeds and debris) that may impede planting or impact on tree growth / development;
- Use appropriate site preparation techniques to cultivate the soil if tree growth is impeded;

- Establish healthy tree stocks when weather and soil conditions are favourable;
- Ensure correct planting techniques are used;
- Apply controlled release fertilisers to optimise early growth;
- Reduce mammal browsing pressures; and
- Reduce competition from other vegetation through the judicious use of herbicides.

Operational establishment plans and spray plans are prepared to ensure specified operational techniques and prescriptions are applied and any environmental or social considerations are considered during the operation. Not all planned plantations are sprayed with pesticides, this decision is determined at the time of plantation establishment on a site by site basis.

When planning spraying operations, the most appropriate pesticide is selected for the site's topography, soil type and species. All neighbours within 100 metres are notified prior to the commencement of spraying. Spray operations are supervised in accordance with Forico's own operating procedures and associated legislated code of practice. Additional operational buffers may apply depending on the classification and vulnerability of watercourses, particularly if there is a downstream water intake. Within sensitive water catchments, water sampling will be considered and may be implemented.

6.4 Fertiliser Application

To optimise tree growth and to reduce the need to apply herbicides to reduce competing vegetation, fertiliser is an important management tool available to the forest manager throughout the plantation rotation. Forico applies a tablet of controlled-release fertiliser at the time of planting. This technique has numerous advantages, one being locating the fertiliser directly adjacent to the tree root (a more efficient, targeted and direct technique) rather than scattering fertiliser more broadly above ground (less efficient, more potential for environmental impact including leaching). The technique reduces the need to have a follow up weed control (herbicide) application (reduced cost, less chemical applied, fewer machinery movements, and enhanced productivity improvements).

The use of controlled-release fertiliser, in combination with establishing plantations during the spring period of the year, greatly improves survival rates, growth rates, limits competition from weeds, and reduces the necessity to invest in intensive game control programs.

These improvements in the establishment process will significantly reduce the need to target mammal browsing pressures due to larger, healthier trees growing within the first 12 – 18 months following establishment. Reduction in the requirement to apply quantities of chemical in the period following establishment has the desirable outcome of reducing the operational expenditure and achieving sustainable management outcomes.

6.5 Tree Improvement

The genetic improvement of plantation trees is actively pursued by Forico as this presents an opportunity for substantial production capacity gains in plantation performance. This investment enables increased productivity to be achieved across the plantation assets, which is an important management objective.

Forico participates in several tree improvement programs (both internal and external) for the three plantation tree species used within the FMU to ensure optimal performance from planted stock. Forico does not use genetically modified trees in any of its operations. This is clearly outlined within the *Environmental Sustainability Policy*.

All plantation deployment material is seed sourced through open-pollinated tree improvement programs. Forico maintains an established network of company-owned and managed seed orchards to ensure improved genetic traits are selected and grown to optimise quality and performance across the suite of site conditions present across the FMU.

Forico seed orchards have been established to grow varieties of trees with improved characteristics. These provide opportunities for (i) productivity gains through improved wood fibre yield, higher density, faster growth rates, or a reduction in branching habit; and (ii) reduction in mortality risk through disease-resistance and selection for specific climate conditions. As a result, Forico is able to match, allocate and grow improved seed for localised areas (tailored for variations in climate, ground conditions, soil, topography and elevation) within the FMU for productivity and quality benefits.

Improvements in productivity can also be achieved through innovative cultivation and plantation establishment practices and fertiliser treatments. The monitoring of all operations complements the investment in research and development.

Forico has established several tree improvement trial networks throughout the FMU, including:

- Progeny Testing Trials that will:
 - Estimate the breeding value of all trees;
 - Enable identification of elite individuals in a breeding population;
 - Enable the removal of inferior families and / or individuals from the breeding population.
- Alternative Species Trials, testing of:
 - New plantation species in locations and climates that do not present the optimal growing environment for the species currently grown by Forico (*Eucalyptus nitens*, *Eucalyptus globulus*, *Pinus radiata*);
 - Three major and 8 minor species were investigated.
- Optimisation and Nutrition Trials to assess and validate:
 - Growth under an unconstrained deployment strategy, considering (i) addition of targeted fertiliser to the plantation site; (ii) addition of pesticide; (iii) addition of growth stimulant. The trial consists of replications of these treatments in isolation or in combination;
 - Plantation growth in response to different (fertiliser products, applied at varying levels of concentration).

6.6 Monitoring of Silvicultural Systems

The plantation monitoring program is carried out to ensure acceptable stocking, performance, and quality. The program involves surveying and assessment of the recently established planted area up until age 3 to ensure successful reforestation has been achieved at these critical early stages of the plantation life cycle. Monitoring includes:

- Site preparation quality control;
- Planting quality control;
- Regular post planting browsing surveys; and
- A survival assessment no more than 18 months post establishment to ensure adequate stocking levels have been achieved; and
- Annual plantation health assessments.

Plantation assessments and monitoring occur throughout the rotation and are not simply restricted to the early operational phases. For example, growth plots are measured and assessed to ensure data is collected to validate that sustainable forest management practices are being implemented (refer to Section 8).

Plantation health assessments are conducted strategically during the annual growth cycle when abiotic and biotic conditions result in vulnerable periods for the plantations, resulting in the potential for plantation damage thresholds being exceeded.

6.7 Permanent Natural Vegetation Estate

The Forico natural vegetation estate (**76,976** hectares) is managed primarily for conservation and biodiversity benefits and is not subject to commercial timber harvesting activities.

All natural vegetation areas have value from an environmental, cultural or social perspective. Where these values are considered to be of high conservation significance, they are termed High Conservation Values (HCVs), and the areas of forest which contain them are defined as High Conservation Value Forest (HCVF). Where HCVs are identified within the FMU, Forico will establish management objectives, and apply operational controls to ensure HCVs are identified, maintained and / or enhanced.

This process is described within the *Forico HCV Assessment and Management Plan*.

7. RATE OF HARVEST AND SPECIES SELECTION

7.1 Annual Harvest Rates

The Forico annual harvest rates are determined based on:

- Maximum sustainable harvest limits as determined by Forico forest yield modelling;
- The market demand for the forest products; and
- Levels which optimise the Enterprise Value (EV) of the forest resource.

The managed plantation estate is modelled using forest resource optimisation software. The software models the plantation resource over an approximate 50 - 60 year period (i.e., 2 - 4 rotations dependent on site quality) under a number of prescribed assumptions and constraints (based on historic, current knowledge and future predictions).

The strategic resource model has been developed to address several criteria which meet Forico expectations, they include:

- Ensuring harvest levels are sustainable;
- Optimising EV for the company;
- Managing the cost of harvest;
- Managing the silvicultural standard thresholds of the stands;
- Managing the outputs of available carbon credits;
- Managing the expectations of different forest owners; and
- Managing the age class distribution of the estate.

The outputs of the resource optimisation model are then presented in a two-stepped approach:

1. Senior management is presented with the 50 - 60 year forest yield model projection of cut volumes, and feedback is sought.
2. Following feedback on matters such as operational optimisation, the 3 - 5 year harvest program is then agreed to by all parties and adopted.

7.2 Species Selection

As previously described, the plantation species Forico propagate, establish and manage include *Eucalyptus nitens* (Shining Gum), *Eucalyptus globulus* (Tasmanian Blue Gum) and *Pinus radiata* (Monterey Pine) to produce fibre for the pulp and paper industry and solid wood products for structural and veneer markets.

Species selection is determined by the requirement to optimise the rate of return by allocating the most economically productive species to site quality, whilst at the same time giving consideration to:

- Meeting commitments to existing customers and internal processing facilities;
- Forecast market demand for differing products; and
- Minimising the financial risk to Forico.

Species grown are selected on the basis of their suitability for a given site.

7.3 Non-Timber Forest Products (NTFPs)

The FMU also contains non-timber forest products (NTFPs), including berries, apiary sites, and game meats. Where NTFPs are identified, management of these products will be considered and a strategic and systematic approach implemented.

In order to demonstrate that collection and harvesting of NTFPs occurs in a sustainable manner and does not exceed replacement levels within the FMU, annual review meetings will be conducted with the individuals and / or relevant groups utilising these products.

8. MONITORING OF FOREST GROWTH

Forico continually monitors the growth of its forest resource through extensive forest inventory programs, to ensure an accurate calculation of sustainable yield throughout the entire FMU can be made.

Forico has developed inventory and tree modelling techniques using actual historical data to predict future growth rates and volume recovery within plantations. Mensuration techniques have also been applied over successive rotations to optimise the timing of harvest and enhance growth modelling capabilities.

Every plantation area is allocated a site quality (SQ) incorporating various characteristics in one of the following ways:

- MAI Calculator (MC);
- Spatial Averaging (SA);
- Estimation (ES);
- Previous Plantation Inventory (PI);
- Yield Analysis (PI); or
- Age 6 Strategic Inventory (SI).

All methods other than the SI are estimations of what the site could potentially produce, based on factors such as rainfall, soil type and land use history. SI is an actual plantation inventory of all age 6 plantations in a given year. SI is currently the most reliable means of predicting future yields for a given plantation, when analysed against established growth models.

8.1 Inventory

Historically, inventory assessments have taken place across all plantations at age 6 and a sub-sample of plots at age 12. Plots are randomly distributed across the entire Developed Area (DA), and each plot is measured for its Basal Area (G) and Mean Dominant Height (MDH).

Plots are of variable radius, with an aim to get 8-12 trees in a basal area sweep.

The sampling specifications are:

- One plot per 3 hectares; and
- At least 6 plots per Developed Area (DA)

The results from the data collected from the field are then analysed within a database where the basal area and MDH are utilised as coefficients in a volume equation. The result generated calculates an estimated volume for each individual plot in m³/ha of Entire Stem Volume (ESV).

The age 6 assessment enables a comparison of actual growth performance with the modelled data. The inventory also incorporates a visual assessment of tree form and stocking.

Forico is committed to continual improvement for yield forecasting and estate management. Currently, our forest growth models are being improved by taking advantage of our strategic inventory program to calibrate forest growth models. Furthermore, the latest mapping techniques are being improved using a combination of satellite imagery, GPS survey and potentially small scale unmanned aerial vehicles.

8.2 Permanent Growth Plots

Forico aims to have a representation of one permanent Eucalypt Growth Plot (EGP) per 1,000 hectares that is stratified by locality boundaries. EGPs provide long term data describing how the plantation is growing through the entire rotation. EGPs are measured on a biennial basis and the data generated from the EGPs is used to validate the existing growth models, adjusting for longer term variability.

8.3 Growth Models

Forico utilises a specific growth model to predict yields for their plantation estate. The growth model is based on the data generated from the Forico EGP monitoring program. Growth models project the height and basal areas of individual trees to calculate volume forecasts.

The company has commissioned the redevelopment of taper equations from new data collated. Mathematical volume equations have been revised to account for new measurement data.

The system of equations or growth model will forecast plantation volumes from the initial strategic inventory at age 6 to the estimated time of harvest. This information is then used to derive strategic wood flows and forest valuations.

8.4 Harvesting Reconciliation

A Yield Analysis database compares the actual harvested volumes against the predicted volumes from any plantation. This mechanism improves the accuracy of the resource information system and ultimately harvest predictions.

8.5 Quality Assessment of Operations

A critical component of any operation undertaken on the Forico forest resource is monitoring the quality of the task. Forico have developed tolerance thresholds that must be adhered to for each operation including site preparation, spraying, planting, thinning and harvesting. Monitoring reports also assess specific environmental and health and safety requirements to ensure certification and voluntary obligations, legislation, and regulatory compliance is continually achieved.

8.6 Carbon Accounting

Plantation wood fibre provides an important source of carbon storage in products (off-site) and in the return of debris and organic matter to the soil (in situ). Equally, natural vegetation areas and ecosystems managed by Forico for their conservation and biodiversity values are an important source of carbon storage.

Forico has assessed the role that the FMU, both plantation and natural vegetation, contributes to the carbon cycle. This has been achieved through application of the *Full Carbon Accounting Model* (FullCAM) developed by the *Commonwealth* and applied to both the plantation and natural vegetation ecosystems.

At 30 June 2022, the total carbon stock was approximately **33.7 million tonnes** based on the FullCAM methodology and Forico's proprietary yield curves. For further information, refer to the Natural Capital Report 2022 of the Tasmanian Forest Trust for the year ended 30 June 2022.

9. ENVIRONMENTAL ASSESSMENTS AND SAFEGUARDS

Forico undertakes environmental assessments at the landscape level and on a site or operational specific basis. It is recognised that environmental components such as soil, water and underlying geomorphology are an essential part of the forest and broader ecosystem and need sensitive management and safeguarding.

Environmental safeguards have been developed into Forico's management prescriptions and operational procedures, based on a combination of company assessments, external assessments and operational experience. The Forico planning procedures require that each operation is individually assessed and a plan produced detailing site-specific management prescriptions.

Compliance to the SHE Management System and legal and other regulatory frameworks is monitored both internally and externally through engaging independent third-party auditors.

9.1 Landscape Level Assessments

9.1.1 Tasmanian Regional Forest Agreement and Landscape-level management

Regional Forest Agreements (RFA's) have been developed as long-term plans for the conservation and sustainable management of native forests across tenures and the landscape, designed to incorporate social and economic values in combination with natural values protection, rather than selecting and managing one element of sustainable forest management in isolation. RFA's are 20-year plans for the conservation and sustainable management of Australia's natural forests. They are produced as a result

of years of scientific study, consultation and negotiation covering a diverse range of interests. Tasmania's state-wide RFA was reviewed in 2017 and extended for a further 20-year period. This provides long-term security to the forest industry and enhances Forico's working environment.

The Tasmanian RFA includes protection of priority flora and fauna species. The Australian government and the Tasmanian government recognise that strategic landscape management planning is an important tool in ensuring the long-term viability of the Tasmanian RFA priority species and their habitats. The FPA develops landscape-level planning guidelines, including those that manage threatened species and other groups of species of high conservation significance. The RFA has been reviewed to identify opportunities for improvement with respect to landscape-level management. The RFA commitment to maintaining a permanent native forest estate is implemented by the FPA through the certification of Forest Practices Plans. Changes in the statewide extent of forest present in individual forest communities is monitored and published quarterly by the FPA, as required by the Policy for Maintaining a Permanent Native Forest Estate

The Forest Practices System ensures the reasonable protection of the natural and cultural values of the forest. The FPA's responsibility and authority covers both public and private land and utilises a co-regulatory approach that combines industry self-management with independent monitoring and enforcement by the FPA. The FPA, in conjunction with specialists from the Threatened Species Section of NRE TAS have developed "*The Biodiversity Landscape Planning Guidelines*" for reference.

Delivery of the Forest Practices System and adopting landscape-level prescriptions and measures may negate the requirement for stand-level measures for some species. The system has demonstrated that a flexible multi-scaled approach is required, following landscape-level management principles. Monitoring the effectiveness and implementation of the landscape-level planning tools is a responsibility shared by .

At a company strategic landscape level, Forico ensures that the broader landscape obligations are achieved through the development and implementation of a *HCV Assessment and Management Plan*.

9.1.2 High Conservation Assessment and Management Plan

Forico has undertaken an assessment of high conservation value forests within the FMU (refer to the *HCV Assessment and Management Plan*). The estate was modelled to identify HCVF. These areas have been verified to confirm the presence or absence of these attributes, including the interrogation of the data by respected independent experts and an extensive program of field-based monitoring. The management objective for HCV forest is to maintain, and where appropriate enhance, the HCV forest through specific management strategies. Forico is currently maintaining the entire natural vegetation estate within the FMU as a conservation and biodiversity asset. Currently, of the **76,976** hectares that are classified as natural vegetation areas, **13,286** hectares is classified as HCV.

Forico conducts and is involved in scientific research into the significant environmental aspects of its forest and land management at a site-specific level including:

- Monitoring the condition of vegetation communities throughout the FMU;
- Monitoring listed locations of threatened flora and fauna, including;
 - *Ptunarra* brown butterfly;
 - Crowded Leek Orchid management;
- Tree improvement research;
- Grassland management (incorporating low intensity ecological burning); and
- Tasmanian Devil research projects.

To demonstrate this commitment towards conservation outcomes, Forico has executed a number of conservation covenants throughout the FMU. These covenants extend in perpetuity and are registered on the land title. Examples of natural forest attributes protected within the FMU include the reservation of rainforest, wet forest, and native grassland communities.

At an operational level, planning of establishment and harvesting often results in retention of natural values under the Tasmanian *Forest Practices Act 1985*. These values encompass both natural and

cultural values; flora; fauna; geomorphology; landscape; soil and water; and social benefits. Management objectives are prescribed to facilitate management of the identified value.

Forico continually assesses environmental and cultural values within the FMU. Where appropriate and relevant, information gained through this process is recorded in the GIS for strategic management and operational planning. This information is also provided to appropriate authorities for inclusion in broader land management datasets.

9.1.3 Special Management Values

Special Management Values (SMVs) are areas identified for management of special values or uses. More than one special value may be applied to an area to reflect the existence of multiple values.

Approximately **44,272** hectares of the forest management unit contains one or more special management values (SMVs). Special Management Values can be divided into the following categories:

- Flora;
- Fauna;
- Cultural Aboriginal;
- Cultural European;
- Catchment Protection;
- Geoconservation;
- Research Plantation;
- Research Ecosystem;
- Landscape Management; and
- Recreation and Education.

9.2 Site-Specific Assessments

Within the FMU, Forest Practices Plans (FPPs) document and plan proposed forest operational activities at a site-specific level in accordance with the FPC. Proposed activities must adhere to and protect all principles, guidelines and values outlined in the landscape-level planning tools and meet or exceed all legislative requirements for forest operations within Tasmania.

FPPs are a legally binding document, signed / authorised by all relevant parties (the applicant, landowner and certifying Forest Practices Officer (FPO)), have a timeframe in which they are active, and apply to discrete geographical areas. FPPs are prepared for all road construction, harvesting and forest establishment operations. These plans and the FPC specify where significant environmental values occur on or adjacent to the planned area and the prescriptions that will be applied to protect them.

Input into plan preparation is obtained from forestry staff employed by Forico and / or specialists from within the State Government agencies, including the FPA.

Operations that are not covered by a certified FPP, must comply with the Forico SHE Management System through preparation of:

- a Forest Operational Burn Plan for High and Low Intensity Ecological Burning; or
- a Non-Operational Activities Plan.

This will ensure the work does not impact any value that may be present, or which has the potential to be impacted by the activity.

9.2.1 Natural and Cultural Values Evaluations

All areas to be roaded, established, harvested or reforested undergo assessment to identify natural and cultural values within or surrounding the operational boundary during Forest Practices planning. This

process may lead to significant areas being excluded from the operational area and / or changes to planning to manage identified issues.

Where required, Forico staff consult with external specialists for information or identification of species and locations or sites that require additional advice. This may include Government based specialists (e.g.: FPA specialists, Threatened Species Section (NRE TAS), Aboriginal Heritage Tasmania (AHT), community-based experts or interested people or Aboriginal people for Aboriginal site management.

Prescriptions are developed to manage each of these natural and cultural values when preparing a Forest Practices Plan (FPP) both within the operational area and adjacent impacted values. Natural and Cultural values of the site which are assessed during planning are:

Flora:

Assessment of flora values includes detailed mapping of the forest communities and the presence or potential presence of any rare, threatened or endangered flora species. Operational impacts on these values are taken into account, as well as evaluation of any other potential management impacts, including weeds potentially being introduced, diseases and presence of reserved areas.

Fauna:

Assessment of fauna values, including the presence of rare, threatened or endangered species or their habitat, and management of important landscape values for fauna.

Prescriptions for flora and fauna are developed prior to an operation commencing. Known locations are identified through using a variety of tools:

- Forico internal “Plan Coupe” GIS assessment tool;
- Forico *HCV Assessment and Management Plan*;
- Aboriginal Heritage Register (AHR);
- Natural Values Atlas (NRE TAS);
- Threatened Fauna Advisor (FPA);
- Forest Botany Manuals (FPA);
- Manual for Forest Landscape Management (FPA);
- Biodiversity Values Database (FPA);
- TasVeg Database (NRE TAS) – Tasmanian Vegetation Communities;
- Tasmanian Geoconservation Database; and
- LISTMap.

Spatial information contained within the relevant databases are incorporated into the Forico GIS and updated when required to ensure the latest and most accurate information is made available to all subscribers.

To ensure information is available for future planning and management purposes, Forico maintains a Geographic Information System that records the location and attributes of identified natural and cultural values. Information is also provided back to Government agencies to update State registers and records.

Consideration is also given to weed and diseases (e.g.: *Phytophthora cinnamomii*) when planning for operations to ensure the intrinsic biodiversity value is maintained and / or enhanced when operations are considered. Prescriptions adopted may include machinery washdown procedures (refer to the *Tasmanian Washdown Guidelines for Weed and Disease Control*) to limit potential distribution and translocation of weeds and diseases across the landscape through forestry operational machinery.

Cultural Heritage:

Assessment of items identified as having Aboriginal or Historic heritage values. Examples include Aboriginal artefact scatters and/or trappers’ huts. There are a number of sites of Aboriginal and European cultural significance across the FMU. To ensure the sites are protected, the relevant legislation and recommendations from specialists (prescriptions included in the FPP) are applied.

The location of known Aboriginal heritage is not publicly available. Aboriginal Heritage Tasmania (AHT) administer the *Aboriginal Heritage Act 1975*. AHT manage the Aboriginal Heritage Register (AHR)

which captures information relating to Aboriginal heritage items located throughout private tenure. A search of all available databases is conducted as part of the FPP planning process. Predictive mapping is also used during planning operations of localities with a high likelihood of containing potential artefacts, referencing external documentation:

- Aboriginal Heritage Register (AHT); and
- *Procedures for Managing Aboriginal Cultural Heritage when Preparing Forest Practices Plans (FPA)*.

European cultural heritage is regulated through Tasmanian cultural heritage legislation (*Historic Cultural Heritage Act 1995*). Three locations within the FMU are listed on the Tasmanian Heritage Register – the Hampshire Hills Homestead, Brick Pits Site and the Silver Mine. All sites were formerly part of the Van Diemen's land holdings located in Surrey Hills. External reference documentation includes:

- Tasmanian Heritage Register (Heritage Tasmania); and
 - *Procedures for Managing Historic Cultural Heritage when Preparing Forest Practices Plans (FPA)*.

If a cultural heritage site has been missed in the planning stage, but found during an operation, exclusion zones are immediately located around the respective site for protection and the FPA specialist notified for advice.

Geomorphology:

Geological, landform, and soil sites are important for their intrinsic scientific, recreational, and/or inspirational values and the role geodiversity plays in sustaining natural processes. Survey, identification, assessment, and recording of geo-conservation values should be carried out prior to forest operations commencing. Predictive geology mapping is undertaken to identify possible new landforms and features.

Assessment of areas containing significant geological sites, landforms, soil sites or limestone karst features vary in their vulnerability to damage and require protection by means of management prescription or reservation.

Visual (Landscape) Management:

Forest operations can be highly visible and have an impact on the landscape. Operations do not need to be hidden from view but can be designed to reduce visual impact and harmonise with the local visual character and land use patterns.

Assessment of important visual or social landscape values provide visual standard principles that should be applied to the management of proposed forest operations.

Soil and Water:

Assessment of streams, rivers and other water bodies and buffer zones are required to protect water quality and quantity through the provision of filtration zones adjoining forest operations. By providing shade, these buffer zones also assist maintaining aquatic ecosystems and riparian values. Acceptable watercourse conditions are maintained throughout the duration of the plantation rotation by using best roading, harvesting, establishment and maintenance practices.

Watercourse and drainage lines are verified within the operational boundaries to observe condition, waterflow direction and slope. Once the known waterways are identified, prescriptions can be applied to exclude areas from harvest or establishment. This enables landscapes prone to erosion and degradation to be managed through stream evaluation and catchment management strategies.

Assessment of soil types, compaction, erodibility, productive capacity ensures appropriate management regimes can be adopted through a clear understanding of the capacity and limitations of the site. This allows optimisation of timber yields whilst maintaining and protecting the integrity of soil structure and site productivity. For example, the allocation of the best suited harvesting machinery to the site will ensure the long-term sustainability and viability of the land through understanding of soil type present, and erodibility classification.

9.2.2 Operational Planning

Aspects such as road locations and associated engineering planning are determined, along with plantation timber inventories and operations strategy prior to commencement of activities. Instructions to contractors conducting the operation are prescribed in the body of the FPP or non-FPP operational plan. In particular, the special management prescriptions required for any of the assessed Natural and Cultural Values. Boundaries are marked in the field to ensure that the operational area is clearly delineated prior to commencement.

The process consists of two stages:

- Forest Practices Plan development, planning, approval and certification by an approved Forest Practices Officer, containing operational prescriptions; and
- Monitoring effectiveness of prescriptions, quality assurance, and compliance to prescriptions.

9.2.3 Plan Review and Approvals

Every Forest Practices Plan is peer reviewed on an individual basis by Forico management staff prior to being certified to ensure compliance with Company Policies and Procedures, as well as the FPC and associated guidelines.

In accordance with the *Forest Practices Act 1985*, Forico prepares a 3 Year Plan each year that is presented to councils and other interested and affected stakeholder groups regarding the proposed planned operations scheduled during the next 3-year period. Issues discussed include:

- Areas planned to be harvested;
- Scheduled volumes transported across roads;
- Planned cartage routes; and
- Areas scheduled for establishment / re-establishment.

9.2.4 Active Operation Management

Management systems and procedures are used to ensure the correct process is followed during forest operations through adherence to the Forico SHE Management System. Accredited Company staff visit, audit and monitor operations regularly (at least monthly) to demonstrate that activities are occurring in compliance with the Forico SHE Management System and FPP prescriptions to ensure high levels of environmental and safety performance are maintained.

Inspections (Certificates of Compliance) are carried out at the completion of each discrete operational phase (e.g.: roading, harvesting, establishment, re-forestation). This ensures that the FPP has been complied with, and that any issues are recognised and corrected in a timely manner. Certificates of Compliance also ensure that prescriptions and specifications have been followed. This is a legally binding aspect of the Forest Practices System.

9.2.5 Monitoring of Operational and Non-Operational Areas

As an external and independent validation, the FPA conducts an annual audit of a representative sample of current FPPs prepared to ensure that the Plans are compliant and field operations have fulfilled the Plan conditions. Any identified areas of required operational improvement can be identified and rectified.

To complement external audits and ensure that Forico maintains a commitment to sustainable forest practices, Forico internally audit a sample of active FPPs. These audits use internal review of systematic processes to verify protection of biological diversity, soil and water resources, cultural and historic values. Internal audits enable Forico to identify areas where better practices are required, or could be developed, and hence promote continual improvement.

Management requirements of the natural vegetation within or adjacent to the operational area are monitored to ensure:

- Prescriptions incorporated are effective;
- Habitat protection, particularly along streams and native forest edges;
- Site preservation, for example sites of cultural or historical significance; and
- Maintenance and/or enhancement of natural vegetation ecosystems;

Compliance to legislative commitments and voluntary obligations (e.g.: sustainable forest management commitments, certification obligations) is achieved through conducting internal and independent third-party external audits of the SHE Management system.

In the natural vegetation areas of the FMU, a program of Vegetation Condition Assessments (VCAs) has been initiated to monitor the health, ecological structure, and level of degradation of non-plantation communities in a systematic manner.

10. THREATENED SPECIES MANAGEMENT

Forico implements procedures within the FMU for the identification and management of threatened species. Forico maintains a GIS in which known biodiversity values, including threatened species locations. In addition, as a component of strategic and operational planning Forico utilise threatened species databases that are managed by external agencies (e.g.: Government authorities) are accessed and used to identify values, including:

- Natural Values Atlas (NRE TAS);
- Biodiversity Values Database (FPA);
- Threatened Fauna Advisor (FPA);
- Forest Botany Manuals (FPA); and
- TasVeg Database (NRE TAS).
- Biodiversity Values Database (FPA)
- Conserve Database (Sustainable Timber Tasmania)

10.1 Identification and Assessment of Threatened Species

Forico uses internal and external databases and procedures to identify threatened species and their habitat throughout the FMU. These procedures provide for known localities and potential habitat of threatened species, both flora and fauna. If a threatened species or potential habitat is identified, management prescriptions may need to be developed, to maintain and / or enhance these values, which may include consultation with specialists.

Management prescriptions for threatened species and / or their habitat are incorporated into Forest Practices Plans to ensure the maintenance and protection of the value during the forest operation. Management prescriptions for many threatened species have been developed by individual species specialists and specialists from organisations such as the FPA, NRE TAS, and UTas.

10.2 Staff Training

Forico employs suitably qualified staff and relies on further focussed professional development to ensure threatened species management is aligned with the most current accepted theories, practices and legislation. Staff regularly undertake training provided by the FPA, in particular the Botany Course which provides training in the identification and management of threatened Flora species and the Fauna Course for threatened fauna species.

11. GEOGRAPHIC INFORMATION SYSTEM (GIS)

The Forico GIS enables the company to monitor and manage the forest resource and allows users to create maps and query information. Data from the GIS is used to produce various reports and maps and plays an important role in the creation of woodflow models for the plantation estate when developing harvesting plans and growth models. The information stored in the GIS enables an accurate and timely response to any management queries regarding the forest resource. Natural vegetation datasets provide accurate and valuable information pertaining to natural values management.

11.1 Resource Information Platform

The system is administered by the Forico Resource Information Team (RIT). All Forico employees access Arc GIS 10.4 (Arc GIS). To align to operational requirements, the Arc GIS software and tools have been expanded to allow employees to use the GIS platform to perform specific tasks, for example, create Forest Practices Plan maps, create burn plan maps, develop neighbour notifications based on cadastre or perform resource updates. The Forico Arc GIS platform is a fit-for-purpose tool for the operational forestry environment.

11.2 Key Datasets

The RIT is responsible for maintaining, updating and auditing all datasets within the GIS. There is detailed documentation (metadata and procedures) available for all datasets and processes. Data within the GIS is either created internally or sourced from external agencies. Examples of externally sourced datasets include: rare, threatened, and endangered species, cadastre, state roads, contours, watercourse locations, rainfall information etc. Forico has data licences and agreements in place for the sharing of data - both within and external to the company. Forico supplies data to a variety of external sources including federal and state government, consultants and non-Government Organisations (NGO's).

Key internally developed and maintained datasets include:

- Resource Layer (plantation and natural vegetation);
- Forest Practices Plan Layer;
- Roads Layer;
- Forest and Special Management Zones; and
- Freehold Titles.

11.2.1 Resource Layer

- Contains information on productive forest resource, data includes:
 - Plant year;
 - Species;
 - Location;
 - Unique identifier;
 - Mean Annual Increment (MAI); and
 - Harvesting regime.
- The datasets are updated on a continual basis with auditing and archiving quarterly;
- Data from this layer is supplied to federal and state government agencies.

11.2.2 Forest Practice Plan Layer

- FPP datasets include the area to be harvested, planted or where road construction is to occur;
- The information is updated on a continual basis, with the layer archived when the plan expires;
- This layer is provided to the FPA.

11.2.3 Roads Layer

- Contains roads built, and maintained by Forico;
- The roads can be on located on freehold titles, or privately owned;
- Includes the information:
 - Date road built;
 - Surface type; and
 - Road class.
- Updated when new road built;
- Supplied to state governments for inclusion on state road dataset coverage and state forestry agencies.

11.2.4 Forest Management Zones and Special Management Values

- Contains information for natural vegetation or special management value areas on the freehold estate;
- Includes areas such as:
 - flora, fauna, social, cultural heritage, catchment protection values, research;
 - Inaccessible areas or non-commercial areas; and
 - Utility areas – easements, quarries, or roads.
- Updated on a continual basis and audited on a quarterly basis;

11.2.5 Freehold Titles

- Contains cadastre record of land that is owned by The Trust Companies and managed by Forico.
- Includes information such as:
 - address detail of properties;
 - ownership;
 - acquisition date; and
 - sold date (archived layer).
- The layer is updated when property is either bought or sold;
- Cadastral data is supplied by the state government and additional fields are added when required.

12. HARVESTING EQUIPMENT AND TECHNIQUES

Timber harvesting is performed by specialised contractors who have the appropriate skills, experience and machinery to perform the required operations. Productivity, efficiency and value recovery is imperative to the success of a harvest operation. Within plantations, stump height and logging residue assessments are used as mechanisms to monitor value recovery.

The terrain, slope, soil erodibility are three factors that will determine which harvesting system will be appropriate for the specific site. Tailoring of equipment to the operation will optimize productivity whilst minimise soil disturbance and compaction.

12.1 Ground-based Harvesting Systems

Ground based harvesting systems can consist of a number of different combinations of machinery and personnel dependant on forest type and levels of production.

- “Cut-to-length” (Shortwood system) harvesting, where the trees are felled using harvester and aggregated in bundles throughout the harvested area. An excavator-type machine with a processing head subsequently de-limbs, de- barks, and cuts the stem length into logs. These shortwood logs are then transported to the landing using a forwarder, and stockpiled ready for transportation.
- Whole Tree Extraction (Longwood system), where trees felled within the plantation and the whole tree transported via skidder to the landing, where they are processed and cut to length at the road edge.
- In either case, the log product is then transported by haulage contractor either directly to a sawmill or a processing facility, where it is sold as a whole log, or converted by static chipper into woodchip product which is then stockpiled for export.

12.2 In-field chipping

The felling of the timber and snigging of material to the landing is conducted as either CTL or WTE harvesting systems. However, rather than transporting whole logs via haulage contractors to a centralised static mill for processing, in-field chipping operations use a mobile woodchipping equipment to process the logs at the site of harvest into woodchips. The woodchips are then transported to the nearest shipping facility. The segregation of logs into the various products (sawlogs, peeler logs, pulp logs) occurs as per other harvesting systems to ensure that the highest value product is recovered from each log. Harvesting residue from the operation is returned and distributed evenly over the harvest area.

In-field chipping provides for efficiency gains in transport costs (more end-product per cubic metre, no requirement to transport residue off site) and enables the retention and distribution of residue on site to contribute towards nutrient recycling.

No in-field chipping is currently taking place across the FMU, however Forico may employ this technique again in future depending on the location of harvest-ready resource.

12.3 Cable Harvesting Systems

Cable harvesting systems utilise a cable yarding machine to extract the logs from the harvest area to the landing. There are numerous variations to cable harvesting systems such as size of material to be harvested (generally determined by the height of the cable yarding tower), cable length and yarding configuration. The simplest and most common of cable systems is the skyline with a carriage. In this system, the carriage runs down the skyline by gravity. When the carriage is over the logs to be dragged the skyline is lowered, the logs are attached to the carriage via chokers, the skyline is then tensioned, and the carriage is pulled back to the yarder using the haul back line.

Cable harvesting enables log extraction from slopes beyond the limits of other harvesting systems. Ground disturbance can be minimised by supporting the majority of the logs' weight via the skyline, thus resulting in positive environmental outcomes. Planning for cable harvesting systems is more intensive, landings are generally considered permanent (to be re-used in the next rotation) and road construction costs are often higher. For these reasons, the use of cable harvesting systems is confined to strategically important resource that cannot be harvested via more conventional methods.

12.4 Plantation Thinning

Plantation thinning operations are primarily undertaken as part of good silvicultural practice – to enhance stand quality, plantation health and maximise economic returns where suitable opportunities are available. The technique will improve the proportion of higher value sawlogs produced at the end of the rotation (at the time of clear felling) and enhance the growth rate of the residual crop. Suppressed or poorly formed trees are removed, leaving dominant trees behind to grow for the duration of the rotation. Forico undertakes thinning operations within the pine and eucalypt estate when economically viable. Thinning operations generally use a feller buncher with an associated forwarder to extract the processed logs to a landing to enable transportation to their destination. Damage tolerance threshold levels apply.

12.5 Harvest Operations Monitoring

All harvesting operations are regularly monitored on at least a monthly basis to assess:

- environmental performance;
- health and safety obligations; and
- production and quality tolerance thresholds.

In addition, as a requirement of the Forest Practices System, once an operational phase is completed (e.g. Harvesting or establishment), the applicant of the Forest Practices Plan (FPP) is legally obligated to complete a completion notice and record on the FPP database that this discreet operational phase is completed. GIS surveys of operational boundaries, including retained sections are recorded. This ensures an accurate comparison can be drawn when comparing actual harvested volumes achieved versus planned or modelled yields.

13. ASSET PROTECTION

13.1 Fire Protection

Fire is a natural part of the Australian environment.

The major eucalypt forest types have adapted to natural fire frequencies and regularly burn with fire intervals ranging from approximately 4 – 20 years in dry eucalypt forests and 20 – 100 years in wet eucalypt forests. However, there are some forest types that are not well adapted to fire such as rainforest and alpine communities. Also included in this group are the major plantation species (*Eucalyptus nitens*, *Eucalyptus globulus* and *Pinus radiata*), which all have a low tolerance to fire.

Fire management is recognised as an integral part of the Forico business. Forico is committed to:

- Minimising adverse impact on the health and safety of Forico employees, other fire fighters and the wider community;
- Comply with all applicable fire legislation requirements, Codes of Practice, insurance and other external and internal policies and procedures;
- Minimise fire impact to Forico resource assets. This can lead to loss of resource and downgrade in quality which can have a negative financial impact. These factors can considerably affect wood flows and have long term ramifications on Forico and the industry as a whole;
- Minimise adverse impacts upon the environment. Specifically protect biodiversity and other conservation values in natural vegetation reserves on or adjacent to Forico managed properties;
- Ensure a risk management framework underpins regional fire management programs;
- Have an annually updated operational Fire Action Plan in place;
- Consult and form cooperative working alliances with fire authorities, service providers, neighbours, traditional owners, applicable industry groups and the wider community. Forico will, where practicable, actively contribute to managing fire at a landscape level;
- Ensure an appropriate level of fire awareness and readiness is integrated into all operational programs;
- During periods of fire danger, the estate is monitored for incidents of wildfire and company resources are deployed where required.
- Effectively respond to all fire incidents that are either on Forico managed land or threatening Forico and investor assets.

The Tasmanian Fire Service (TFS) has legislated responsibility for the management of fires that occur on all private land in Tasmania under the *Fire Service Act 1979*. This includes all properties owned or occupied by Forico. Forico has a Memorandum of Understanding (MOU) with the TFS, which highlights that Forico has an extensive area within the state that consists of valuable forestry assets requiring protection. The MOU provides specific operational guidelines for the management of fire within these areas.

The key components of the fire protection strategy for the FMU:

- **Prevention** – The majority of assets are enclosed with firebreaks and are accessed via comprehensive road networks. Firebreak maintenance programs are conducted to keep these effective for the control of fire. Fuel Reduction burning programs are also undertaken which can help contain the spread of fire, reduce intensity and allow more efficient and effective suppression. Other vegetation management strategies such as grazing and slashing also contributes to minimising the build-up of fuels and an increased potential for unplanned fires.

The choice of preventative methods is based on the cost effectiveness of each measure at reducing the number of fires, the area burnt, the damage to assets and predicted fire suppression costs.

During periods of high fire danger, operations are also subject to industry approved fire weather “shutdown” procedures as well as having specified minimum fire suppression equipment requirements for each operational type. Forico participates in the Forest Industry Fire Management Council, a voluntary, collaborative group which develops these procedures and reviews them periodically.

- **Monitoring** – A combination of fire monitoring techniques are employed by the forest industry during the fire season. These consist of, but are not limited to, spotter plane flights, fire lookout towers and notification from other sources including Company staff and contractors, other industry members and importantly the general public.
- **Fire Action Plans** – A key component of the fire protection strategy is the operational Fire Action Plan. The function of this plan is to provide a reference document which details the procedures relating to responsibility, preparedness, the detection and suppression of fires, and available resources for fire management.

Sections covered include, but are not limited to, fire policy, company procedures, roles and responsibilities, communications, fire detection measures, inter agency protocols, fire permits, contractor guidelines, fire law, duty teams and rosters, personnel skills lists, available resources and incident and reporting forms.

- **Fire Equipment** – Appropriate equipment for fire suppression activities is purchased and maintained to a high standard and available to be used in the event of a fire by trained staff.
- **Training** – Forico employees and contractors are appropriately trained in fire suppression techniques and procedures and in the operation of machinery in firefighting situations to an agreed industry standard.
- **Cooperation and Liaison** – a high degree of consultation and information sharing with other stakeholders in relation to fire management.

13.2 Plantation Health and Integrated Pest Management Plans

Forico employ a range of forest management programs to ensure that plantations remain in good health throughout the rotation and whereby growth is not restricted by factors that can otherwise be controlled. An effective management strategy is required to ensure that the plantation crop health is not compromised, and the values in the surrounding natural habitat in the landscape is maintained. Effective control of native and introduced weeds, native browsing animals, insects and fungal, bacterial and viruses often requires an integrated approach using pesticides, fertilisers and potentially biological agents. Any technique must adhere to a number of legislative and regulatory obligations, including:

- *Forest Practices Act 1985;*
- *Forest Practices Code 2020;*
- *Agricultural and Veterinary Chemicals Act 1994 and Agricultural and Veterinary Chemicals Code Act 1994*
- *Nature Conservation Act 2002, Animal Welfare Act 1993* (lethal and non-lethal game management techniques).

Forico has been an active participant in developing biological controls and alternatives to pesticides. Forico does not use chemicals, including 1080, to control browsing mammals. An Integrated Pest Management approach incorporates a number of management alternative strategies. This integrated pest management program includes:

- An advanced tree improvement program that aims to deploy selected genotypes that demonstrate resistance to natural pests and diseases;
- During the plantation establishment phase, monitoring of young seedlings for nutrient deficiencies, weed competition and browsing from vertebrates and invertebrates. Reduced competition for nutrients and water optimises growth and reduces competition that would otherwise result in suppressed trees that would be vulnerable to mammal, insect and/or pathogen attack;
- Throughout the life of the plantation each area is formally inspected at least annually to monitor plantation health, including nutrition, and identify remedial actions where required. Additional fertiliser treatment is one such example;
- During vulnerable periods of plantation growth, formal monitoring is conducted on browsing insect populations as well as beneficial insect populations (natural predators). Where natural predators have been unable to maintain normal levels of browsing insects within tolerance thresholds, remedial control techniques are sometimes employed including targeted insect spraying programs; and
- In forest management regimes involving thinning or pruning careful consideration is given in operational planning to maintain stand vigour and integrity.

These programs combine to ensure that Forico plantation estate performs optimally throughout the FMU. Where required, Forico will employ remedial actions in a safe and environmentally sustainably responsible manner.

14. PRODUCT PROCESSING, MARKETING AND RESEARCH

14.1 End Uses of Forest Products

Logs sourced from the Forico managed forest resource are either taken to (i) Processing facilities; or (ii) Sawmills.

Additionally, Forico continues to seek alternate uses for and develop value adding products from the fibre resource grown across Tasmania. Collaborative research projects with University of Tasmania have demonstrated the versatility of *Eucalyptus nitens* as a resource for production of engineered wood products such as structural and form ply, laminated veneer lumber (LVL), glue laminated (GLT) and cross laminated (CLT) beams and panels. Timber products have been tested to destruction to establish strength ratings and a range of silvicultural interventions assessed for the impacts they have on appearance and strength characteristics. Underutilised resources such as out of specification wood chips and harvest residues are being assessed for use in the production of liquid fuels and the chemical makeup of these resources are being determined to establish what new products could be developed. This approach will further support the local communities we operate in and ensures Forico minimises waste from its business operations as part of its commitment to operating in the circular bioeconomy.

This ensures economic and environmental efficiencies via reduced transport and handling as well as social benefits through generating local employment and service requirements.

14.2 Export of Wood Fibre

Forico export wood fibre in the form of woodchips, due to there currently being no domestic options for the sale of substantial volumes of wood fibre. Wood fibre is considered an international commodity and is commonly traded in an international marketplace. Forico also sells sawlogs to international customers to ensure product diversification is achieved.

Both the Chinese and Japanese pulp and paper industry are important wood fibre markets for Forico. Most customers expect and demand that Forico products will be sold with certification claims. Forico export woodchips products from the company-owned Long Reach and Surrey Hills Mills and the TasPorts Burnie Port Export Terminal. This supply chain infrastructure enables efficient resource flow from the plantation source to the port operations and permits the establishment of competitive wood fibre markets.

14.3 Carbon and Core Benefits

Over recent years, Forico has registered numerous projects with the Emissions Reduction Fund that demonstrate our commitment to storing carbon in standing trees. These take one of the following forms:

- the change of species from short-rotation eucalypt to longer-rotation pine;
- the planting of areas that would otherwise have been converted to agriculture; or
- the thinning, and subsequent lengthening of rotation, or eucalypt plantations.

In addition to capturing carbon within our production resource areas, these projects also have several core benefits. The key core benefits for our carbon projects include:

1. Forest management certified through independent third-party audit in both our production and natural forest areas (FSC and Responsible Wood).
2. Natural forest areas on our estate have Ecosystem Services impact demonstration procedure certified with the Forest Stewardship Council
3. Monitoring program for our natural vegetation areas to ensure appropriate management of these areas and support of the associated ecosystems (threatened and endangered species protection, weed identification and management etc)
4. Growing trees longer in our carbon projects resulting in additional carbon storage as well as benefiting other ecosystem functions such as soil fertility and stability.
5. Co-benefits of natural forest areas which are embedded within our mosaic of carbon coupes (habitat and connectivity for fauna and flora).
6. Riparian protection throughout our estate resulting in improved water quality whilst also providing sediment control.

14.4 New or Future Market Opportunities

The developing carbon market holds many benefits for Forico. As such, Forico maintains a market ready position of monitoring and measuring carbon sequestration and carbon emissions.

Market opportunities for both solid wood plantation products and residue are being investigated. In terms of plantation resource future markets, this could potentially incorporate the consideration of engineered solid wood products, advanced polymers such as carbon-fibre, biofuels, ethanol production, wood energy and bioenergy, wood pellet technology and biochar opportunities.

Alternative innovative opportunities within the FMU includes natural capital accounting of ecosystem services that are maintained and / or enhanced predominantly within the natural vegetation asset.

14.5 Natural Capital Accounting

Forico has a strong and ongoing commitment to sustainable forest management practices that “*make every hectare count*”. Sustainable outcomes deliver economic, environmental and social benefits to all stakeholders within the communities in which we operate. As a leading forestry and landscape manager, we are mindful that our business is interdependent on nature and the communities in which we work and live.

The Forico Natural Capital Reports present natural capital value in the common language of the dollar within the familiar format and structure of financial reporting. This reveals to stakeholders the significant value of natural capital in the Forico business.

The implementation of a robust, credible and auditable methodology using accounting-based approaches to recognise, record and value a broader set of environmental and social benefits beyond wood fibre production will enable Forico to communicate to stakeholders the value of the natural environment in which we operate.

The initial challenge for Forico was to determine (i) which ecosystem services were to be assessed and (ii) how they would be reported within our Natural Capital Report. The intention is to report on the ‘*metrics that matter*’, demonstrating our most material ecosystem services, namely:

- biomass (wood fibre) production;
- carbon sequestration and storage;
- water flows, sediment control; and
- habitat and biodiversity services.

Ultimately, the extension of accounting principles will enable the derivation of extended financial statements and the preparation of management accounting reports for the entire suite of forest services and benefits.

14.6 Research

Opportunities for research and development are considered a critical part of the company overarching strategy if the outcome results in:

- sustainable forest management solutions; continue growth of forest value; improve the financial return to Forico.
- Innovative management solutions aligned to appropriate budget constraints.
- Improvement in the efficiency of the FMU management by delivering timely and accurate information and results in compliance with operational practices and procedures.

Forico strategically invests in a range of research and development activities and manages a portfolio of approximately 25 projects. Research is conducted externally through collaborations with industry, government and university partners. There are three themes under which the research is organised internally and some of the key projects for each of the areas are detailed below:

Plantation Management

- Integration of advanced tree breeding technologies into Forico's *Eucalyptus nitens* breeding program;
- Assessment of alternate species for wood production;
- Optimisation of nutrition and silvicultural practices for deployment activities;
- Characterisation of bioactive compounds from plantation eucalypts.

Fibre Supply

- Utilisation of wood properties from standing trees to maximise end use;
- Understanding log and biomass drying kinetics;
- Production of engineered wood products from plantation timber.

Sustainability

- Natural capital accounting;
- Flora and fauna monitoring programs;
- Monitoring the effectiveness of the Forest Practices Code to provide reasonable protection for the environment.

15. PLAN REVIEW

The Sustainability Manager and Sustainability Advisor are responsible for the production and review of the Forico *Forest Management Plan*.

The Forico *Forest Management Plan* is updated for area figures and accuracy on an annual basis. It will be reviewed every 5 years or following significant change to operations. Stakeholder consultation will be invited and conducted during the review process with all feedback documented, considered and incorporated (if applicable) into the latest version.

The review process will be enhanced through the completion of internal and external independent third-party audit programmes. Audit findings will be carefully considered during the review process. Any results from operational and / or environmental monitoring will be taken into account.

16. KEY TASMANIAN AND COMMONWEALTH LEGISLATION

State Legislation and Codes of Practice

Aboriginal Land Act 1995
Aboriginal Heritage Act 1975
Agricultural and Veterinary Chemicals (Control of Use) Act 1995
Agricultural and Veterinary Chemicals (Control of Use) Regulations 1995
Animal Welfare Act 1993
Biosecurity Act 2019
Boundary Fences Act 1908
Building Act 2000
Building Regulations 2004
Code of Practice for Aerial Spraying 2002 (updated November 2014)
Code of Practice for Ground Spraying 2001 (updated November 2014)
Environmental Management and Pollution Control Act 1994 (EMPCA)
Firearms Act 1996
Fire Service Act 1979
Fire Service (Miscellaneous) Regulations 2017
Forestry (Fair Contracts) Act 2001
Forestry Fair Contract Code 2003
Forest Practices Act 1985
Forest Practices Regulations 2017
Forest Practices Code 2020
Forest Safety Code 2021
Heavy Vehicle National Law (Tasmania) Act 2013
Historic Cultural Heritage Act 1995

Land Use Planning and Approvals Act 1993 (www.planning.tas.gov.au)
National Parks and Reserves Management Act 2002
Native Title (Tasmania) Act 1994
Nature Conservation Act 2002
Private Forest Act 1994
Tasmanian Planning Schemes (www.iplan.tas.gov.au)
Threatened Species Protection Act 1995
Security Sensitive Dangerous Substances Act 2005
Security Sensitive Dangerous Substances Amendment Bill 2008
State Policies and Projects Act 1993
State Policy on Water Management 1997
State Policy on Protection of Agricultural Land 2009
Work Health and Safety Act 2012
Work Health and Safety Regulations 2012
Quarry Code of Practice 2017

Commonwealth Legislation

Australian Heritage Council (Consequential and Transitional Provisions Act 2003
Australian Human Rights Commission Act 1986
Aboriginal and Torres Strait Islander Heritage Protection Act 1984
Agricultural and Veterinary Chemicals Code Act 1994
Australian Human Rights Commission Act 1986
Biosecurity Act 2015
Competition and Consumer Act 2010
Environment Protection and Biodiversity Conservation Act 1999
Environment Protection and Biodiversity Conservation Regulations 2000
Environment Protection and Biodiversity Amendment (Wildlife Protection) Act 2001
Export Control Act 1982
Fair Work Act 2009
Gene Technology Act 2000
Gene Technology Regulations 2001
Illegal Logging Prohibition Act 2012
Illegal Logging Prohibition Regulation 2012
Modern Slavery Act 2018
National Measurement Act 1960
Native Title Act 1993]
Racial Discrimination Act 1975
Regional Forest Agreements Act 2002
Workplace Relations Act 1996