



**Australian Government**  
**Department of Agriculture,  
Water and the Environment**  
ABARES

# **Regional forest agreements: compilation of reservation and resource availability outcomes**

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Research by the Australian Bureau of Agricultural and Resource Economics and Sciences

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## Regional forest agreements: compilation of reservation and resource availability outcomes

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# Executive summary

Australia's ten Regional Forest Agreements (RFAs) are long-term agreements for the sustainable management and conservation of areas of Australia's forest, in four states.

This report presents a compilation of data on changes in reserved areas and forest resource availability, both at the signing of the RFAs and subsequently. Australia's Comprehensive, Adequate and Representative (CAR) reserve system was created at signing of the RFAs.

- Section 1 summarises the key outcomes sought through creating the RFAs.
- Section 2 describes collation of data on Australia's forests, including RFA outcomes, in Australia's National Forest Inventory, housed in the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES).
- Section 3 summarises the methods used to compile the RFA data presented in this report.
- Section 4 presents data by RFA region on reserved forest ecosystems, old-growth forest and wilderness, the net harvestable area of forest, and sustainable sawlog yields and actual sawlog harvests, by RFA region. Data are presented before signing the RFAs, after signing the RFAs, and at various time-points until the most recent data. This section also indicates the drivers for change in these parameters over time in each jurisdiction.
- Section 5 provides some brief concluding comments.
- Appendix A provides the complete RFA data in tabular form.

The report is a sequel to the paper of Davey (2018), which describes the origins and development of RFAs.

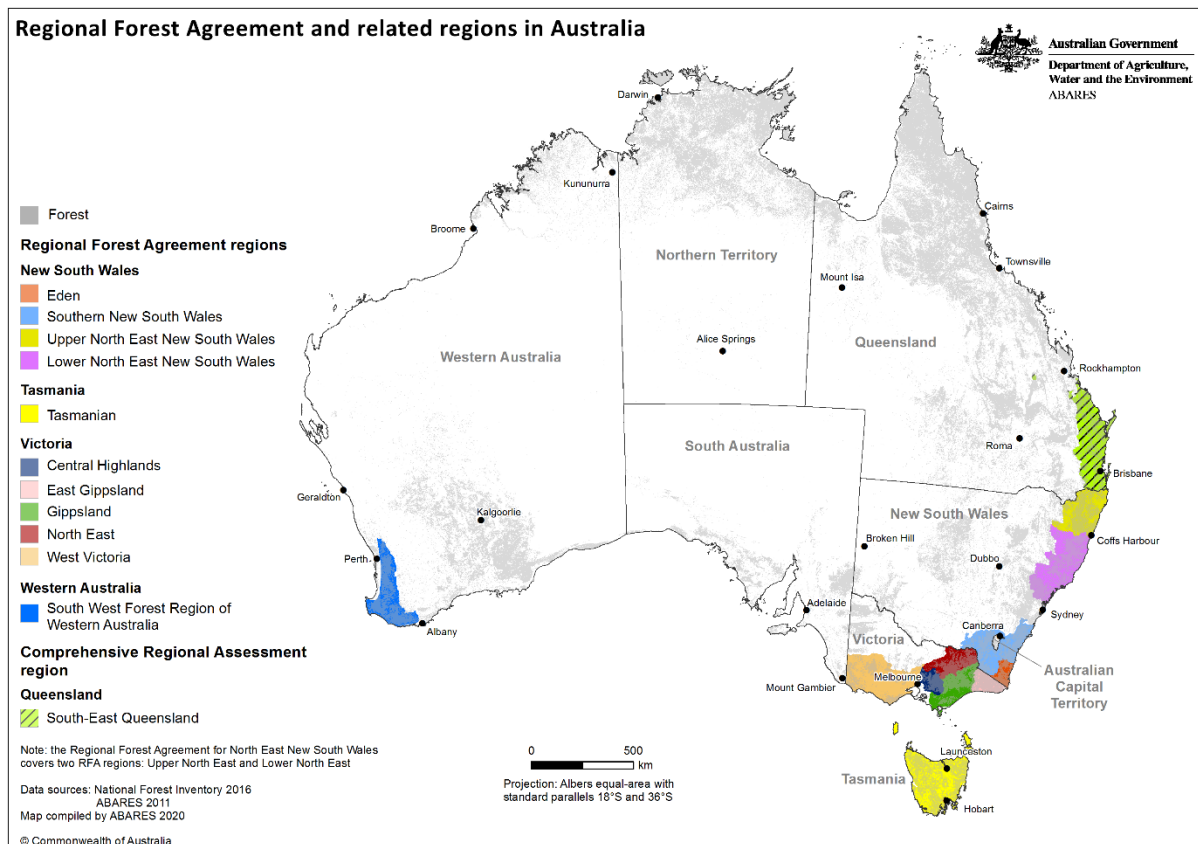
## Overview of Australia's Regional Forest Agreements

There are five RFAs in Victoria, three in New South Wales and one each in Western Australia and Tasmania. The RFAs were signed by the Australian and state governments between 1997 and 2001, as 20-year agreements. The RFAs in New South Wales, Western Australia and Tasmania have since been extended as 20-year rolling agreements, and the five Victorian RFAs have been extended until June 2030. The publication in this report of data covering the first 20 years of the RFAs is timely following these recent extensions.

The objectives of the RFAs were creation of a comprehensive, adequate and representative system of reserves (a CAR reserve system), promotion and implementation of improved management practices in harvested native forests, implementation of ecologically sustainable forest management for all forests (including determination of sustainable yields of forest resources), and provision of resource security for the forestry industry. A set of formal criteria (the JANIS reserve criteria) set out area thresholds or benchmarks for forest conservation within the reserve system, including specifically for forest ecosystems, old-growth forest, and wilderness.

Considerable data were collected by the Commonwealth, states and territories to inform the process of establishing the outcomes of the RFAs in the RFA regions. At the Commonwealth level, these data have been collated and maintained by Australia's National Forest Inventory, originally housed in the Bureau of Rural Sciences (BRS) and now in the ABARES. Since signing of the RFAs, updated data have been periodically sourced from the states for the National Forest

Inventory, including from RFA Review datasets and Assessment of Matters datasets. The tables in this report present this full compilation of data on RFA outcomes, both at signing of RFAs and subsequently, and describe the changes in status of the areas of forest and non-forest ecosystems that were mapped before signing the RFAs.

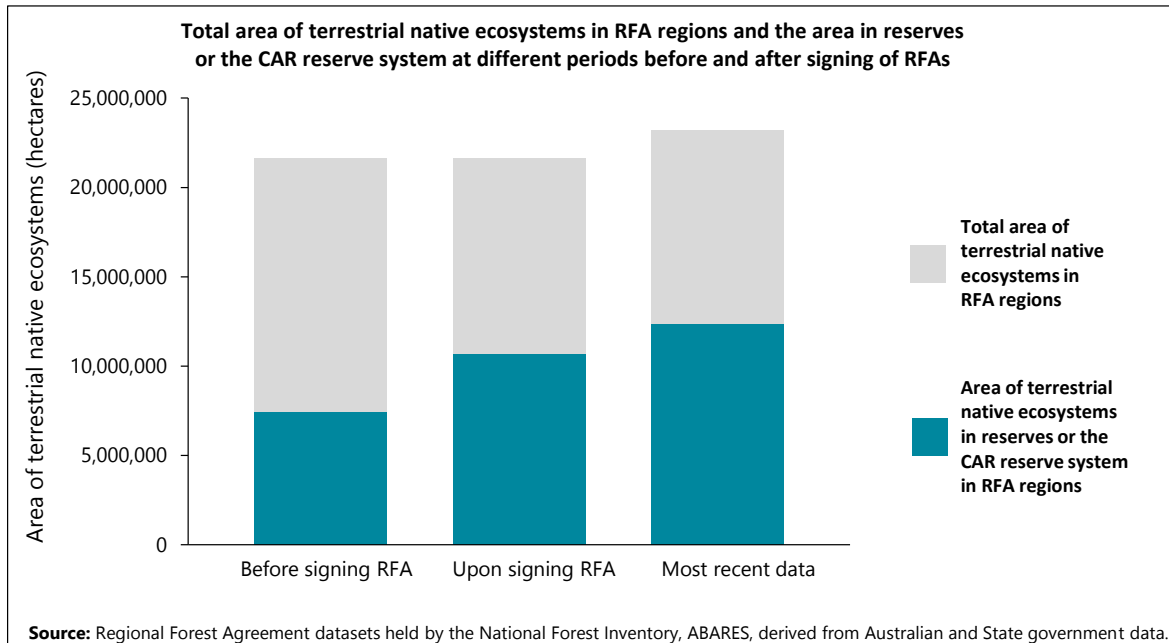


## CAR reserve system

Australia's CAR reserve system on public land comprises dedicated (formal) reserves, informal reserves, and areas with values protected by management prescription, and is complemented by the private land component of the CAR reserve system. It provides the protected area network for Australia's forest biodiversity in Australia's national reserve system.

The area of reserves in RFA regions before signing the RFAs comprised 7.4 million hectares. The CAR reserve system created in RFA regions at signing of the RFAs contained a total of 10.6 million hectares, comprising 8.4 million hectares of native forest ecosystems and 2.2 million hectares of non-forest ecosystems, and including 3.0 million hectares of native forest ecosystems and 0.25 million hectares of non-forest ecosystems that were unreserved or unprotected before signing the RFAs.

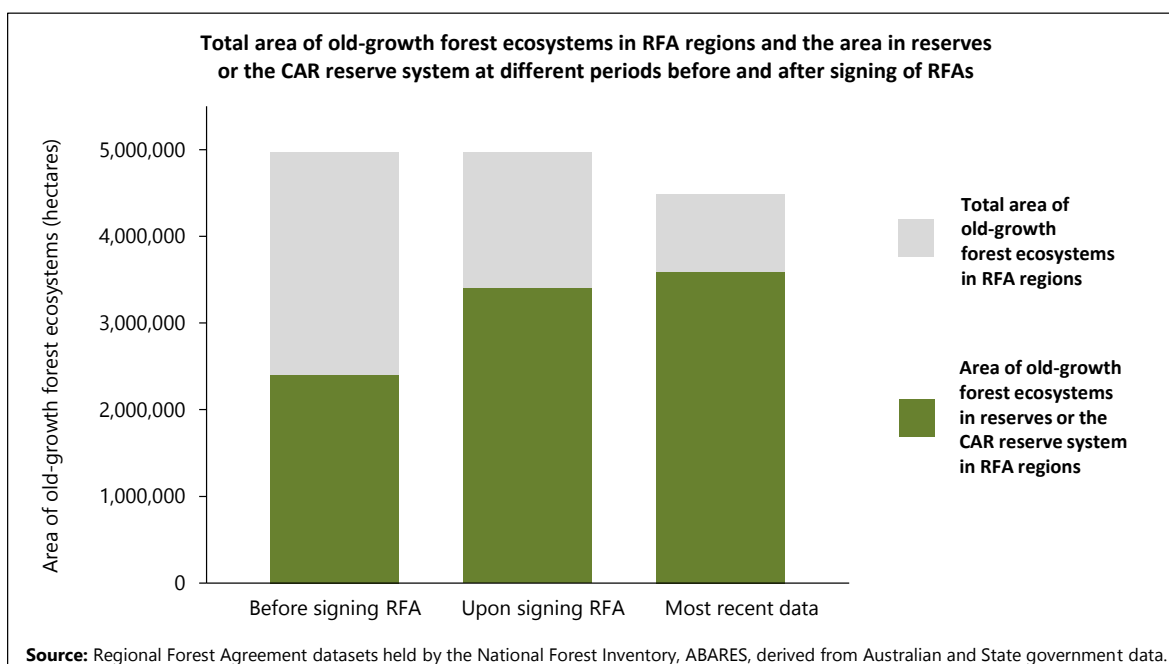
Further reservation since signing the RFAs has led to the CAR reserve system in RFA regions increasing to a total of 12.4 million hectares by 2019, comprising 10.0 million hectares of native forest ecosystems and 2.3 million hectares of non-forest ecosystems.



## Old-growth forest

Before the signing of the RFAs, the area of old-growth forest in formal and informal reserves in RFA regions was 2.4 million hectares. The CAR reserve system created in RFA regions at signing of the RFAs contained 3.4 million hectares of old-growth forest, including 1.0 million hectares of old-growth forest that was unreserved or unprotected before the signing of the RFAs. Further reservation since the signing of the RFAs has led to the CAR reserve system in RFA regions containing 3.6 million hectares of old-growth forest in most recent data.

While old-growth forest has not been remapped in all RFA regions since signing of the RFAs, the most recent data show that the total area of old-growth forests in RFA regions has decreased from 5.0 million hectares to 4.5 million hectares (9%) since signing the RFAs. This was primarily a consequence of wildfires in Victoria, that led to 0.44 million hectares of old-growth forest in Victorian RFA regions becoming regrowth and mixed-aged forest.

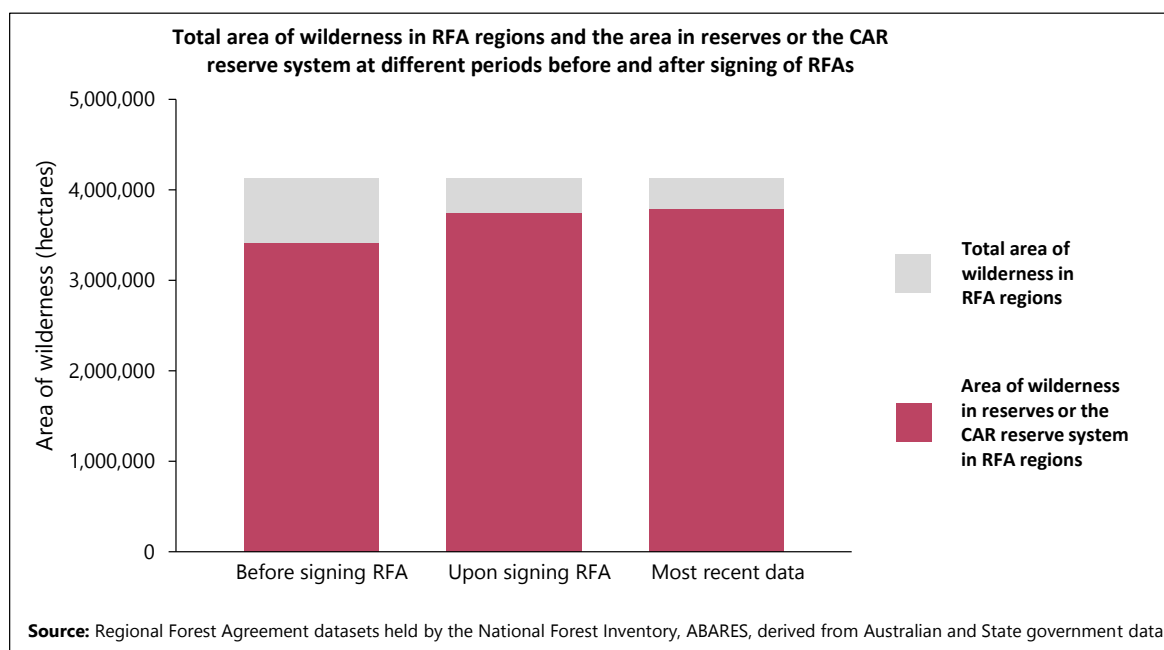




## Wilderness

Before the signing of the RFAs, the area of wilderness in formal and informal reserves in RFA regions was 3.4 million hectares. The CAR reserve system created in RFA regions at signing of the RFAs contained 3.7 million hectares of wilderness, including 0.33 million hectares of wilderness that was unreserved or unprotected before the signing of the RFAs.

Further reservation since the signing of the RFAs has led to the CAR reserve system in RFA regions containing 3.8 million hectares of wilderness in most recent data. However, wilderness areas have not been remapped in all RFA regions since signing of the RFAs.

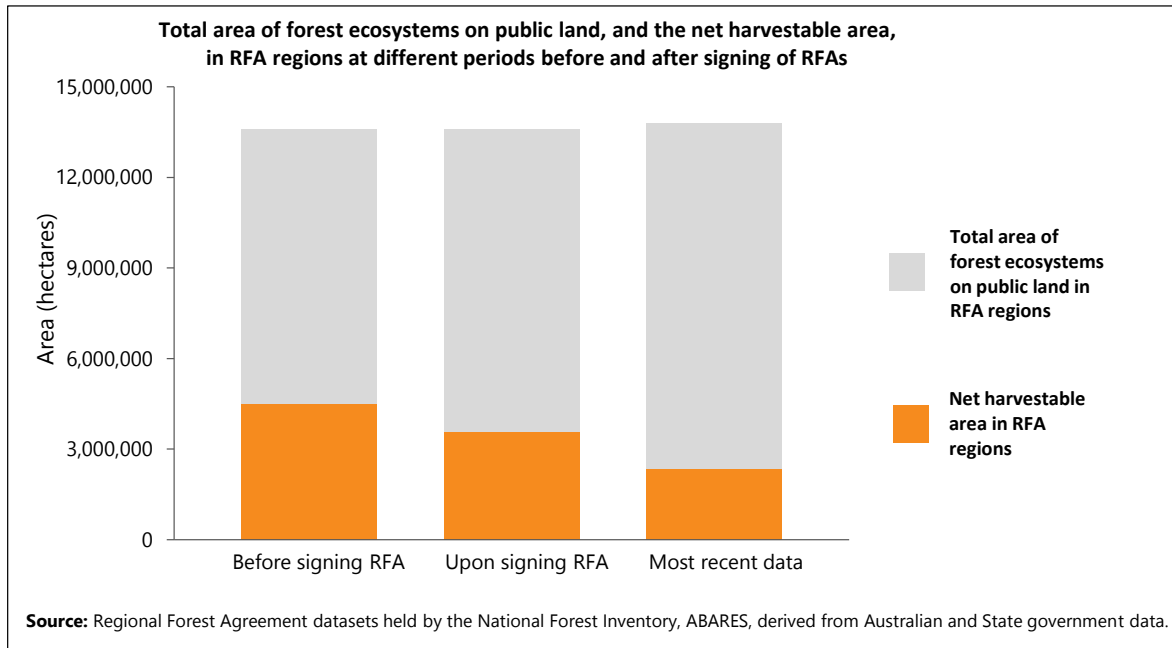


## Net harvestable areas

The net harvestable area is the net area of native forest on multiple-use public forest tenure available and suitable for wood harvesting, after allowing for local and/or operational constraints, and is a measure of the area of public native forest that is available to supply products to the forest industry.

The net harvestable area of public native forest in RFA regions reduced by 0.91 million hectares at signing the RFAs, from 4.5 million hectares to 3.6 million hectares. Subsequent progressive increases in the area of forest in the CAR reserve system since the signing of the RFAs, and increased management prescriptions, have decreased the net harvestable area by a further 1.3 million hectares, to 2.3 million hectares in the most recent data available.

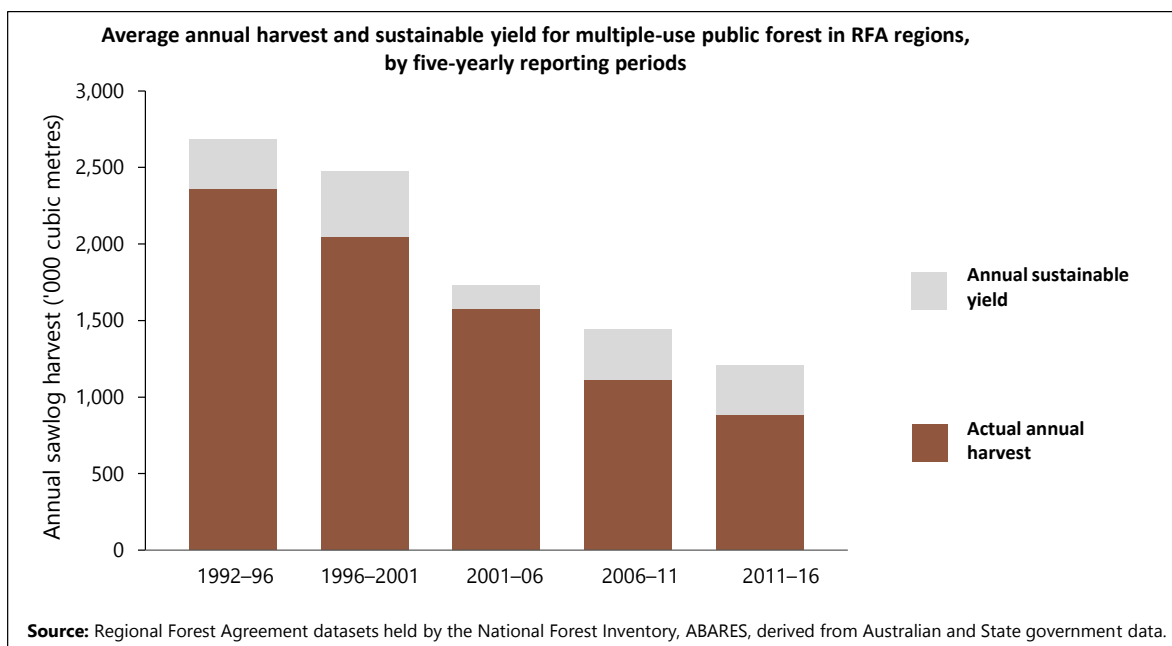




## Sustainable and actual wood yields

Reduction in the net harvestable area, together with improved modelling of sustainable yield and the impact of wildfire on wood resources, have resulted in significant reductions in sustainable wood yields from public native forests in RFA regions.

In the five-year period to 2016, both the sustainable yield and the actual yield of sawlogs in the RFA regions were less than half the corresponding values identified before RFA processes commenced in 1995–96. Over this 20-year period, total sustainable yield in the RFA regions decreased from 2.7 million cubic metres per year to 1.2 million cubic metres per year, and actual yield in the RFA regions decreased from 2.4 million cubic metres per year to 0.88 million cubic metres per year.



## Conclusion

The data in this report form the authoritative record of the outcomes in RFA regions for the CAR reserve system, old-growth forest, wilderness, net harvestable areas, and sustainable and actual harvest yields, both at signing of the RFAs and subsequently.

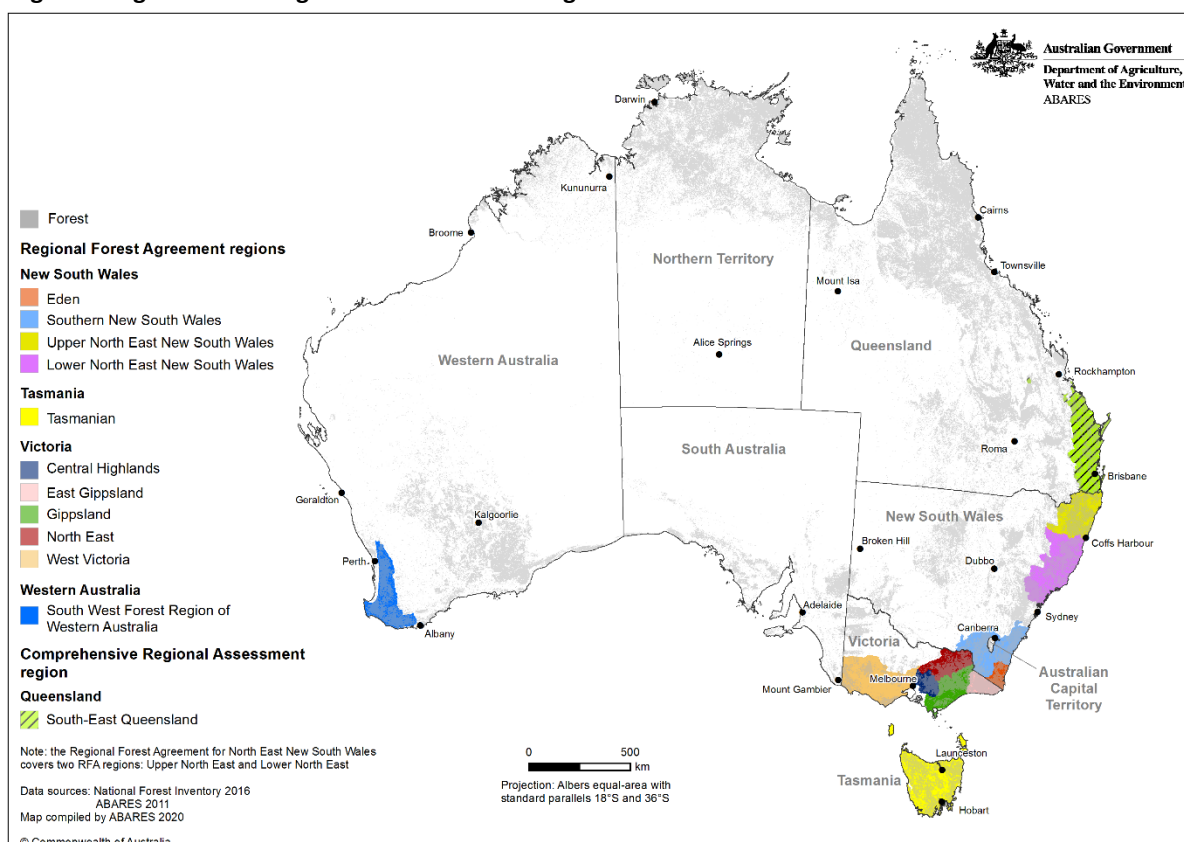
Signing of the RFAs resulted in changes in Australia's forest management arrangements in RFA regions, including substantial areas of forest being reserved through establishment of the CAR reserve system, and substantial reduction in the access to forest resources by forest industries. These trends have continued since the signing of the RFAs.

The figures and data tables from this report are available at [doi.org/10.25814/3z94-9957](https://doi.org/10.25814/3z94-9957).

# Introduction

During the period leading up to 2001, the Commonwealth (Australian) Government developed and finalised Regional Forest Agreements (RFAs) covering 39 million hectares of land across the major commercial native forest regions of Australia other than Queensland (Figure 1). The Commonwealth and Queensland Governments completed a Comprehensive Regional Assessment for South-East Queensland, but did not sign an RFA. While eleven RFA regions were delineated, the Lower North East New South Wales and Upper North East New South Wales RFA regions were covered by one RFA, giving a total of ten RFAs. From 2017 to 2020, all ten RFAs were varied, with the five Victorian RFAs extended to 2030 and all other RFAs extended as 20-year rolling agreements.

**Figure 1 Regional Forest Agreement and related regions in Australia**



A higher resolution version of this map is available at [doi.org/10.25814/3z94-9957](https://doi.org/10.25814/3z94-9957).

Davey (2018) provides a review of the development of RFAs and the principles and concepts that underpinned them. These agreements are long-term strategic and holistic plans implementing the principles of ecologically sustainable development (Commonwealth of Australia 1992a). They were designed as the basis for an internationally competitive and ecologically sustainable forest products industry (Martyn 2002), and collectively provide a blueprint for the management of Australia’s forests across all tenures. They also implement international obligations, principles and objectives (Davey 2018). At the time they were developed, RFAs were seen as the largest inter-governmental natural resource planning process ever undertaken in Australia (McDonald 1999).

Specific objectives of the agreements were creation of a comprehensive, adequate and representative system of reserves (the CAR reserve system), promotion and implementation of improved management practices in harvested native forests, implementation of ecologically

sustainable forest management for all forests, and provision of resource security for the forestry industry.

This paper presents the outcomes of the RFAs, both at the time of signature and subsequently, in terms of areas reserved under the CAR reserve system, including areas of old-growth forest and wilderness, and changes in net harvestable areas and sustainable yield.

Forest and forestry terms used in this report are defined in ABARES (2020).

# 1 Key outcomes from regional forest agreements

Prime responsibility for management of land and forests in Australia is vested with state and territory governments. However, the Australian Government can apply its powers under the Australian Constitution indirectly to manage the use and conservation of forests and forest resources. As a consequence of domestic and international environmental policy developments, the Australian Government established a number of strategic forest initiatives with state governments in the late 1980s (Davey 2018). These initiatives informed the *National Forest Policy Statement* (Commonwealth of Australia 1992a), which in turn provided the framework for ecologically sustainable development of forests based on the principles of maintaining ecological processes, maintaining biological diversity, and optimising the benefits to the community from all uses of forests within ecological constraints (Commonwealth of Australia 1992b).

Incorporated into the *National Forest Policy Statement* was a strategy to develop regional agreements based on these principles, including setting a sustainable management framework for use of native forests to achieve social and environmental objectives, and ensuring that commercial use of forests is based on ecologically sustainable practices and constraints (Commonwealth of Australia 1992a, b).

Important conceptual drivers for RFAs (Davey 2018) were:

- managing and utilising Australia's forest estate for all forest values on an ecologically sustainable basis
- government collaboration for durable land-use decision-making processes associated with forest conservation, management and use
- implementing a comprehensive, adequate and representative (CAR) reserve system applying to public and private forest land
- developing an ecologically sustainable and internationally competitive forest products industry that provided national and regional benefits.

A senior scientific group advised the Australian government on the best way to ensure forest biodiversity conservation while retaining a production forestry industry (Pitman et al. 1995). Their advice, together with the Commonwealth's position on forest conservation reserves (Commonwealth of Australia 1995b), led to the formulation of the basis for a CAR reserve system by the Joint Australian and New Zealand Environment and Conservation Council/Ministerial Council on Forestry, Fisheries and Aquaculture National Forest Policy Statement Implementation Sub-Committee (JANIS). The JANIS reserve criteria (JANIS 1997) set out area thresholds or benchmarks for forest conservation within the reserve system, including:

- for biodiversity, 15% of the pre-1750 distribution of each forest ecosystem, and at least 60% of vulnerable and 100% of rare and endangered forest ecosystems
- for old-growth forest, 60% of the old-growth area of each forest ecosystem, increasing to 100% for rare or depleted old-growth forest ecosystems
- for wilderness, 90% of the area of high-quality wilderness.

The CAR reserve system provides a world-class protected area network for Australia’s forest biodiversity (Commonwealth of Australia 2005), and continues to provide the scientific framework for Australia’s National Reserve System<sup>1</sup>. Davey et al. (2002) reviews the role played by science in developing the RFAs more generally.

A CAR reserve system was established across each of the regions covered by an RFA, from the date each agreement was signed. Under the agreements, the governments also made commitments for the sustainability of wood yields and for ecologically sustainable forest management, and the associated collection of information about sustainability indicators. These responsibilities originate from the *National Forest Policy Statement* and the *National Strategy for Ecologically Sustainable Development* (Commonwealth of Australia 1992a, b), and were incorporated into RFAs as obligations for five-yearly reviews of performance (see for example RPDC 2002, Ferguson et al. 2003, Ramsay 2008, Spencer 2009, Wallace 2010, Kile 2013, 2015, Wilkinson et al. 2014). Access to forest resources by the timber industry, and support provided to regional communities, were also measured through these reviews.

After signing individual RFAs, the data that informed the agreements were archived with the National Forest Inventory in the Bureau of Rural Sciences (BRS, now the Australian Bureau of Agricultural and Resource Economics and Sciences, ABARES), the Environmental Resources Information Network (ERIN, now the Geospatial and Information Analytics Branch, Department of Agriculture, Water and the Environment) and state departments. Data were periodically exchanged between these entities following the signing of agreements to update or supplement archived data.

## 2 Regional Forest Agreement data held in the National Forest Inventory

The National Forest Inventory was established in 1988 for the purpose of collecting, collating and reporting forest information (Hnatiuk et al. 2003, MIG and NFISC 2018). It was originally housed in BRS, and is now housed in ABARES.

Section 10A of the *Regional Forest Agreements Act 2002* requires the Minister to establish “a comprehensive and publicly available source of information for national and regional monitoring and reporting in relation to all of Australia’s forests; and to support decision-making in relation to all of Australia’s forests”. The National Forest Inventory is the mechanism that

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<sup>1</sup> [environment.gov.au/land/nrs/science/scientific-framework](http://environment.gov.au/land/nrs/science/scientific-framework)

meets this legislative requirement, and it plays a critical part in the national approach to measuring and monitoring sustainable forest management (Howell et al. 2008).

Staff within the National Forest Inventory team in BRS originally created summary data tables based on the RFA data and information available after signing the RFAs. Examples of summary tables are presented in Dunphy et al. (2000), Keenan & Ryan (2004) and Davidson et al. (2008). To meet the ongoing requirements of Section 10A of the *Regional Forest Agreements Act 2002*, updated RFA data were then periodically sourced from the states for the National Forest Inventory, covering a range of RFA values including forest ecosystems, old-growth forest, wilderness, net harvestable area, attributes associated with sustainable yield, and other data associated with sustainability indicators.

Over time, these data have been used for national and regional monitoring and reporting, as well as supporting decision-making, which were the purposes established under the *Regional Forest Agreements Act 2002*. For example, Keenan & Ryan (2004) used the RFA old-growth data to discuss the impact of reservation of old-growth forests on timber supply, and Davidson et al. (2008) used the RFA data as at 2008 to discuss changes in areas reserved, changes in areas available for harvest in public native forest, and sustainable forest management in regions covered by RFAs. Some of the RFA data and information held in the National Forest Inventory were also used for reporting against these RFAs in the *Australia's State of Forests Report* series<sup>2</sup>. Less attention has been given to performance reporting of conservation and heritage values in the CAR reserve system in RFA regions, because limited monitoring of the formal and informal reserve system has occurred (MIG and NFISC 2013, Davey 2018).

RFA data and information provided over time to the National Forest Inventory, and the summary data tables developed and updated by National Forest Inventory staff, have been used to determine trends over time for various parameters in RFA regions, including areas in the CAR reserve system, old-growth forest and wilderness areas, net harvestable areas, and sustainable yield. It is these summary data that are collated and reported in the tables in this report.

### 3 Methodology

The data presented in this report is RFA data that has been validated by both the relevant state and the Commonwealth. Data sources include the original RFA documentation, as well as five-yearly *Progress with implementation of regional forest agreements* reports and the *Assessment of matters pertaining to renewal of regional forest agreements* reports. Data were usually finalised at or within six months after signing agreements or subsequent amendments or reviews.

Data presented in Table A1–A10 are primarily derived from spatial sources. Table A1 and Table A2 include modelled pre-1750 terrestrial ecosystem areas, as reported in environmental assessments and used to inform reserve design decisions and JANIS targets prior to signing the RFAs. Estuarine waterbodies are included in the land area statements for terrestrial native ecosystems, but other major waterbodies, non-native communities and cleared land are not. Plantations are not included in area statements for native or non-native ecosystems. Region areas are the terrestrial land area for the RFA region, calculated using the same geographical projection nationally and the standardised national coastline used by the National Forest

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<sup>2</sup> [agriculture.gov.au/abares/forestsaustralia/sofr](http://agriculture.gov.au/abares/forestsaustralia/sofr)

Inventory in 2000<sup>3</sup>. As a consequence, areas may differ slightly to those previously reported in Comprehensive Regional Assessment reports, which included some areas of sea, and in some cases used different coastline data and geographical projections.

The signing dates of the original RFAs<sup>4</sup> are the dates used for the original RFA data, and are:

- East Gippsland, 3 February 1997
- Tasmanian, 8 November 1997
- Central Highlands, 27 March 1998
- South-West Forest Region of Western Australia, 4 May 1999
- North East, 9 August 1999
- Eden, 26 August 1999
- Gippsland, 31 March 2000
- West Victoria, 31 March 2000
- North East New South Wales, 31 March 2000
- Southern New South Wales, 24 April 2001.

The most recent data available for this paper for RFA regions in New South Wales is 2016, for the Tasmanian RFA is 2017 for forest ecosystems and 1998 for non-forest ecosystems, for RFA regions in Victoria is 2019, and for the South-West Forest Region of Western Australia RFA is 2018. These most recent data are derived from the assessment of matters reports for all states (Australian and Tasmanian Governments 2017, Australian and New South Wales Governments 2018, Australian and Victorian Governments 2019, Australian and Western Australian Governments 2019), supplemented for Tasmania with data derived from *State of the forests Tasmania 2017* (FPA 2017).

The forest cover datasets used throughout this report present data according to the sum of the forest ecosystems reported in the original RFAs and (for Victoria) subsequent RFA-related reporting. This coverage differs from the forest cover dataset that is assembled and updated every five years for the *Australia's State of the Forests Report* series (Mutendeudzi et al. 2013).

### 3.1 Ecosystems and ecosystem reservation and protection

Mapped forest ecosystems are those ecosystems used to develop the RFAs. Unmapped areas of non-forest can occur within these mapped areas of forest. Native non-forest ecosystems were also mapped and typed in the development of the agreements, and may include unmapped areas of forest. Native non-forest vegetation communities include those described as heathlands, shrublands, open woodlands or grasslands, as well as modified communities dominated by native species, naturally occurring bare ground (mudflats and beach), and dune systems. For the purposes of reporting old-growth forest ecosystems, any areas of non-forest ecosystems reported as containing old-growth forest are reported as forest.

'Count of types' refers to the number of unique ecosystems within an area or region. Counts for Victoria and New South Wales are the number of unique forest and non-forest ecosystems used

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<sup>3</sup> In 2000, the National Forest Inventory used the AUSLIG 1:100,000 coastline *cst100g2* with two GDA94 projections – GDA 1994 MGA Zone 55 for Tasmania, and GDA 1994 Australian Albers for the Australian mainland.

<sup>4</sup> [agriculture.gov.au/forestry/policies/rfa](http://agriculture.gov.au/forestry/policies/rfa)



in RFA mapping projects in these states. Where non-forest ecosystems were reported as non-forest in one RFA region, but as forest in another RFA region due to containing old-growth forest in that region, they are included as separate counts in state totals.

Area figures for total reserves pre-RFA (Table A1) are for native forest and native non-forest communities in formal and informal reserves on public land (including Commonwealth land), as reported by the state before each RFA was signed.

Figures for total reserves post-RFA (Table A1–A5) include native forest and native non-forest ecosystems in formal and informal reserves as agreed by the Commonwealth and relevant state government at the signing of the RFA under an accreditation process (Davey 2018). Similarly, figures for areas of old-growth forest in reserves after the signing of RFAs (Table A6) refer to old-growth forest in formal and informal reserves agreed by the Commonwealth and relevant state government at the signing of the agreement under the accreditation process. Figures for old-growth forest areas in formal and informal reserves subsequent to the signing of RFAs (Table A7) are based on data subsequently reported by each state. The terms ‘formal reserves’ and ‘informal reserves’ are used and defined in the same manner as in MIG and NFISC (2018) and ABARES (2020)<sup>5</sup>.

Other mapped areas of forest and non-forest on public land not in formal or informal reserves are included in the CAR reserve system where values are managed for protection by prescription. These prescriptions can occur where inclusion as a reserve is not practical due to, for example, naturally fragmented distribution, cannot be mapped, have very rare values, or areas where harvesting is not permitted (as identified by the state) but that contribute to CAR values (biodiversity, old-growth forest, wilderness). The total area of the CAR reserve system on public land therefore includes areas of formal reserves, areas of informal reserves, and areas with values protected by prescription. Areas with values protected by prescription, as accredited as such by the Australian Government at signing of the RFAs, are included in Table A1 and Table A2.

The areas of formal and informal reserves in the most recent data do not include areas with values protected by prescription, but those are included in the total area of the CAR reserve system (Table A3 and Table A4).

The date of the most recent data in Table A3 and Table A4 is the most recent reporting data date, namely 2016 for New South Wales, 2015 for Tasmania, 2019 for Victoria, and 2018 for Western Australia, as reported in Australian and New South Wales Governments (2018), Australian and Tasmanian Governments (2017), Australian and Victorian Governments (2019) and Australian and Western Australian Governments (2019).

Private land contributing to the CAR reserve system is only included in tables for Tasmania and Victoria (Table A3, Table A4 and Table A7). It is not included for all areas and regions due to incomplete or uncertain data, or data that are only partly reported. Some data on private reserves and covenanted land for New South Wales and Western Australia is reported in MIG and NFISC (2018).

## 3.2 Old-growth forest

Old-growth forest is defined as ecologically mature forest where the effects of past disturbances are now negligible (see ABARES 2020). Conservation and protection of old-growth forest is a

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<sup>5</sup> Formal reserve: An area, such as a national park, legally dedicated for protection in a reserve. Informal reserve: Reserve on public land protected through an administrative instrument by a public land management agency, such as special protection zones in state forests.

requirement of the *National Forest Policy Statement* (Commonwealth of Australia 1992) and is incorporated in the RFAs.

Data for areas of reserved old-growth forest include only old-growth forest in formal and informal reserves (Table A6). The total area of old-growth forest in the CAR reserve system also includes old-growth forest protected by harvesting code prescriptions and in other areas (as identified by the state) where harvesting is not permitted (Table A7).

The dates of the most recent data used for reporting old-growth forest areas (Table A7 and Table A8) are 2016 for New South Wales, 2015 for Tasmania, 2019 for Victoria and 2018 for Western Australia, as reported in Australian and New South Wales Governments (2018), Australian and Tasmanian Governments (2017), Australian and Victorian Governments (2019), and Australian and Western Australian Governments (2019), respectively. Victorian data on old-growth forests incorporate the effects of fire up to March 2009; old-growth forest not in reserves is all other old-growth forest on public and private land, whether protected by prescription or not. The data used for reporting in Table A8 were reported in 2019 (Australian and Victorian Governments 2019).

For the Victorian RFAs, the Ecological Vegetation Class (EVC) vegetation classification system is used to describe forest ecosystems, including old-growth forest ecosystems and non-forest ecosystems. Since the agreements were signed, changes have been made to the list of unique classes and classification of EVCs in Victoria; EVCs have been added, removed and merged, and Australian and Victorian Governments (2009) caution about comparing tables presented in Australian and Victorian Governments (2009) and those presented as attachments in the RFAs. Victorian data presented in Table A1, Table A2 and Table A6 are based on the EVCs used at the time of signing RFAs, while Victorian data presented in Table A3, Table A4, Table A5, Table A7 and Table A8 are based on a reconciliation of the EVC classification at the date of signing RFAs with the updated EVC classification as at 2019. This reconciliation was not checked spatially, but was sufficiently accurate for grouping and categorising areas as forest and non-forest, and as old-growth forest. Area figures for forest ecosystems and old-growth forest at 2019 were determined in a comparable way to area figures for forest and old-growth at RFA signing (Table A3–A8).

### **3.3 Wilderness**

Areas of wilderness (Table A9) include native forest communities and native non-forest communities, but not areas of sea. Wilderness value has not been reassessed since signing of RFAs other than in Tasmania, when it was reassessed in association with the 2005 Tasmanian Community Forest Agreement (a Supplementary Regional Forest Agreement; Australian and Tasmanian Governments 2007).

### **3.4 Changes in net harvestable area**

Net harvestable area (NHA) estimates prior to RFA signing (Table A10) are state estimates of areas available and suitable for harvesting for sawlogs in native forests. These NHA areas include the areas subject to a moratorium from harvesting during the process leading to signing RFAs. NHA figures immediately following the signing of the RFAs and for the three subsequent periods presented in Table A10 are based on state government data provided to the National Forest Inventory. Victorian area estimates prior to RFAs are based on Victoria's Hardwood Area Resource Information System (HARIS) data; figures after that date are based on estimates and methodology used over time to calculate wood resources from Victorian public forests. New South Wales NHA estimates prior to RFAs are similarly based on older inventory data and figures, while figures after that date include net harvestable area modifier estimates (Forests NSW 2012).

### 3.5 Sustainable and actual yields

Sustainable yield and actual yield data for RFA regions (Figure 1) are for the following log categories (MIG and NFISC 2018): New South Wales, high-quality sawlogs and equivalents from native forest; Tasmania, category 1 and 3 sawlogs and veneer logs; Victoria, D+ sawlogs and equivalents; Western Australia, 1<sup>st</sup> and 2<sup>nd</sup> grade sawlogs. The accuracy of the data increases with each reporting period.

High-quality sawlogs purchased from private native forests are incorporated into the sustainable yields in north-eastern New South Wales (MIG and NFISC 2018). Sustainable yield estimates in New South Wales and Tasmania include high-quality sawlog supplementation from public hardwood plantations (MIG and NFISC 2018).

## 4 Outcomes of Regional Forest Agreements

### 4.1 Comprehensive, adequate and representative reserve system

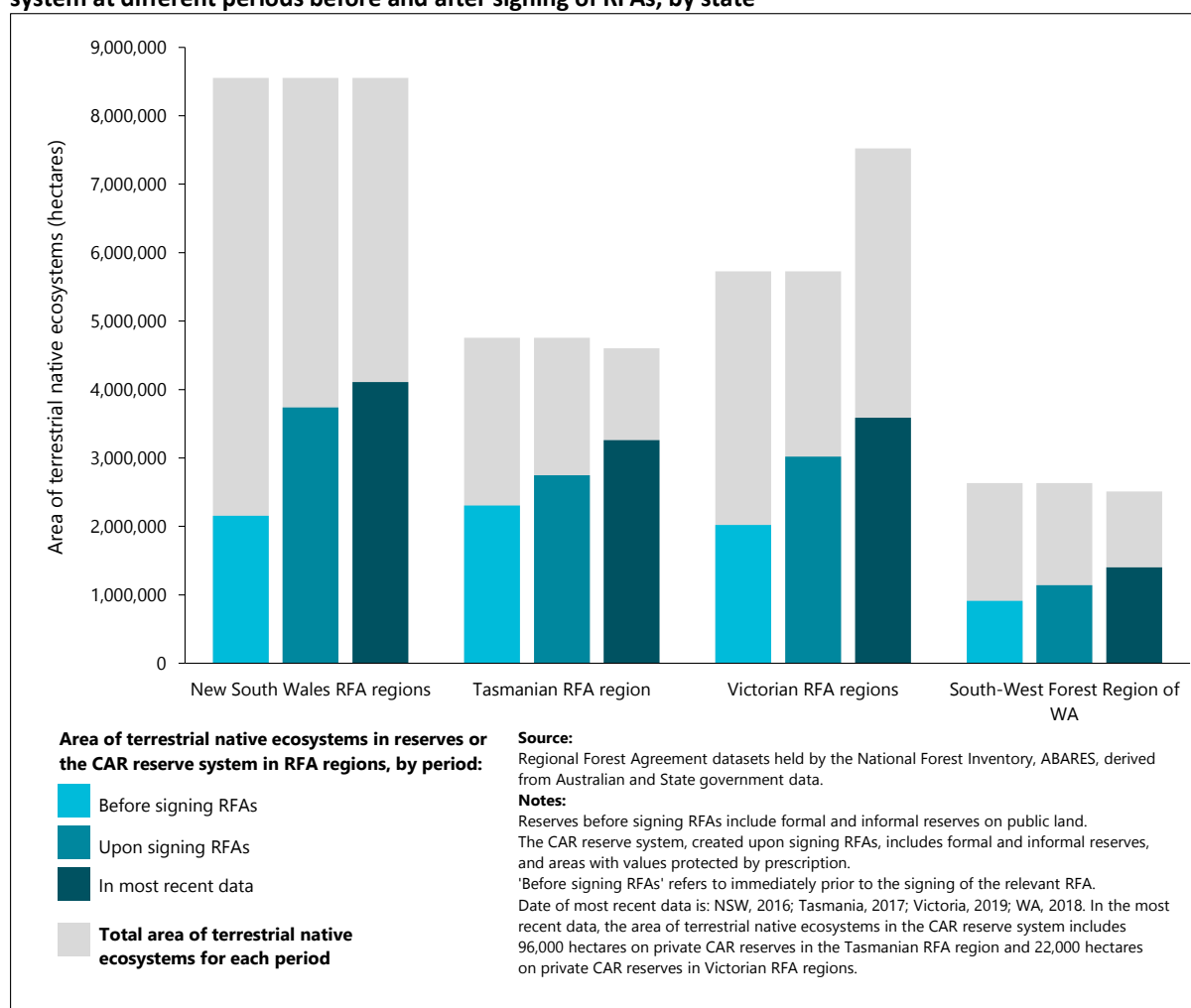
The nationally agreed criteria for a comprehensive, adequate and representative (CAR) reserve system (JANIS 1997) were based on assessment of regional biodiversity, old-growth forest and heritage values, and were implemented as a direct consequence of the RFAs (Australian Government 2000, Commonwealth of Australia 2000). The CAR reserve system on public land created at RFA signing comprises formal and informal reserves as well as areas managed by prescription to protect biodiversity, old-growth and wilderness values. Protected areas on private land also form part of the CAR reserve system.

This process led to major advances in regional approaches to ecologically sustainable forest management, particularly systems applying involving management by prescription (Koch et al. 2012, Davey 2018).

#### 4.1.1 Ecosystem reservation and protection

Table A1–A5 provide collated statistics on the reservation of terrestrial ecosystems (comprising native forest and non-forest ecosystems) for all RFA regions before and after the signing of RFAs, and in most recent data. Figure 2 summarises the total area of terrestrial ecosystems in RFA regions by state, and the area in reserves or the CAR reserve system at different periods before and after signing of the RFAs.

**Figure 2 Total area of terrestrial native ecosystems in RFA regions and the area in reserves or the CAR reserve system at different periods before and after signing of RFAs, by state**



The data used to create this figure, together with other data in this report, are available in Microsoft Excel at [doi.org/10.25814/3z94-9957](https://doi.org/10.25814/3z94-9957).

A total of 738 forest ecosystem types were distinguished during the development of the RFAs, varying from as few as 21 in the South-West Forest Region of Western Australia RFA region to 190 in the Lower North East (NSW) RFA region. A total of 406 forest ecosystem types were present in New South Wales RFA regions, 261 in Victorian RFA regions and 50 in the Tasmanian RFA region (Table A1).

#### 4.1.2 Creation of the CAR reserve system at RFA signing

Environmental assessments completed prior to the signing of the RFAs modelled the extent of pre-1750 terrestrial ecosystems. These were assessed as covering 39 million hectares in the area that would form the RFA regions, including 35 million hectares of forest ecosystems and 4.1 million hectares of non-forest ecosystems.

Environmental assessments prior to the signing of the RFAs identified 22 million hectares of terrestrial ecosystems extant by that time, including 19 million hectares of forest ecosystems and 2.5 million hectares of non-forest ecosystems. The decreases in area from the modelled pre-1750 areas were due to clearing of terrestrial ecosystems since that time. Prior to signing of the RFAs, a total of 5.4 million hectares of these forest ecosystems were in formal and informal reserves (Table A1).

In total, the RFAs at their signing added 2.6 million hectares to Australia's formal and informal reserves, including 2.4 million hectares of native forest ecosystems (Table A1). This brought the

area of the formal and informal reserve components of the CAR reserve system on public land to a total of 10.0 million hectares, comprising 7.8 million hectares of native forest ecosystems and 2.2 million hectares of native non-forest ecosystems (Table A1). The area of native forest in formal and informal reserves in RFA regions was thereby increased by 44% (Table A2). As a result of the RFAs, 57% of the area of public forests in RFA regions was in the formal and informal reserves component of the CAR reserve system, compared to 40% prior to these agreements (Table A2).

The area of forest added to formal and informal reserves, as a proportion of the area of forest in reserves before the RFA process, varied from 2% in the East Gippsland RFA region to 151% in the Upper North East New South Wales RFA region. Significant increases in forest reservation occurred across all New South Wales RFA regions, with collectively a 65% increase in forest reserve area (Table A2). Similarly, all Victorian RFA regions other than East Gippsland had significant increases in forest reservation, varying from 42% (West Victoria) to 60% (Gippsland), with collectively a 37% increase in forest reserve area in Victorian RFA regions. The Tasmanian and South-West Forest Region of Western Australian RFAs resulted in a 29% and a 16% increase in forest reserve areas in these regions, respectively.

However, the total area of the CAR reserve system on public land established through the RFA process is larger than the areas of formal and informal reserves described above, as it also includes areas managed by prescription for protection of biodiversity and old-growth values. Following signing the RFAs, between 95 thousand and 110 thousand hectares of forest were managed by prescription in each of the Gippsland and North East regions in Victoria, the Lower and Upper North East regions in New South Wales, and the South-West Forest Region of Western Australia (Table A1). Collectively, the ten RFAs resulted in 0.63 million hectares of forest ecosystems and 45 thousand hectares of non-forest ecosystems being protected through management prescriptions. Inclusion of these areas in the CAR reserve system brought the total area of the CAR reserve system to 10.6 million hectares, comprising 8.4 million hectares of native forest ecosystems and 2.2 million hectares of native non-forest ecosystems (Table A1). This is 49% of the pre-RFA extent of these forest and non-forest ecosystems, and 28% of the pre-1750 extent of these forest and non-forest ecosystems (Table A1 and Table A2).

In summary, the RFAs added 2.4 million hectares of native forest ecosystems to the formal and informal reserve system, with another 0.63 million hectares of native forest ecosystems being protected by management prescription, giving a total of 3.0 million hectares of native forest ecosystems reserved or protected; this area was combined with native forest ecosystems in pre-existing reserves to form the area of native forest ecosystems in the CAR reserve system (Table A1). A further 0.25 million hectares of native non-forest ecosystems were incorporated in the CAR reserve system at signing the RFAs, comprising 0.21 million hectares in formal or informal reserves and 45 thousand hectares protected by prescription. Together with native forest ecosystems, a total of 3.3 million hectares of additional area was protected in the CAR reserve system through the signing of the RFAs.

The proportion of forest converted to non-forest between 1750 and the date of signing the RFAs varied across the regions, from 7% (East Gippsland) to 81% (West Victoria), with the proportion converted to non-forest being between 31% and 45% in the other RFA regions (Table A2). All the RFA regions excepting West Victoria had more than 15% of the pre-1750 forest area protected in the CAR reserve system at signing of the agreements, and across all RFA regions a total of 24% of the pre-1750 forest area was protected in this way (Table A2).

The proportion of total forest area on public and private land in each RFA region at the time of signing the RFAs that was included in the CAR reserve system ranged from 31% in the Upper North East (NSW) RFA region to 55% in the Gippsland RFA region, with a total of 44% across all RFA regions (Table A2). All the RFA regions thus exceeded the goal of Pitman et al. (1995) of 30% of the extent of forest being in the CAR reserve system.

### 4.1.3 Additions to the CAR reserve system after RFA signing

Table A3 and Table A4 present the changes in area and proportion of reserved native forest and non-forest ecosystems in RFA regions that occurred after the signing of the RFAs.

The native forest ecosystem extent in Tasmania decreased by 150 thousand hectares between the 1997 signing of the RFA and most recent data in 2017 (Table A3), mainly as a result of conversion of native forest to plantations as well as some clearing for agriculture. In Victoria the total extent of native forest ecosystems in RFA regions increased by 1.4 million hectares between the signing of the respective RFAs and 2019 (Table A3), mainly as a result of improved vegetation mapping (mostly on private land) and reclassification as forest ecosystems of areas previously classified as non-forest.

Further reservation following the signing of RFAs occurred as a result of variation of a RFA (Tasmanian Community Forest Agreement 2005) or of state policies (New South Wales, Victoria and Western Australia: refer to Australian and New South Wales Governments 2017, Australian and Victorian Governments 2019 and Australian and Western Australian Governments 2016).

Further protection by prescription occurred in Victoria and Tasmania, including the implementation or strengthening of conservation prescriptions applying to threatened species, old-growth forests or other forest values, consistent with continuous improvement provisions in RFAs.

- In New South Wales, a total of 0.37 million hectares of native ecosystems (10%) was added to the CAR reserve system in the period since the signing of RFAs, mainly as a result from transfer of state forest and Crown land to national parks and conservation reserves, for example through the *National Park Estate (Reservations) Bill 2005*.
- The CAR reserve system in Tasmania increased by 0.51 million hectares (41%) after the signing of the RFA in 1997, as a result of the Australian and Tasmanian Government variation of the RFA in 2005 (Tasmanian Community Forest Agreement), and due to inclusion of 96 thousand hectares of private forest reserves that resulted from an initiative of the Tasmanian RFA.
- The increase of 0.53 million hectares (19%) in native forest ecosystems in Victoria's CAR reserve system occurred as a result of further formal and informal reservation, implementation of further management prescriptions, and increase in total mapped extent of forest ecosystems across all regions.
- The CAR system in Western Australia increased by 0.22 million hectares (27%) after the signing of the RFA, primarily in the form of formal and informal reserves, as a result of implementation of the state's old-growth policy (Australian and Western Australian Governments 2016).

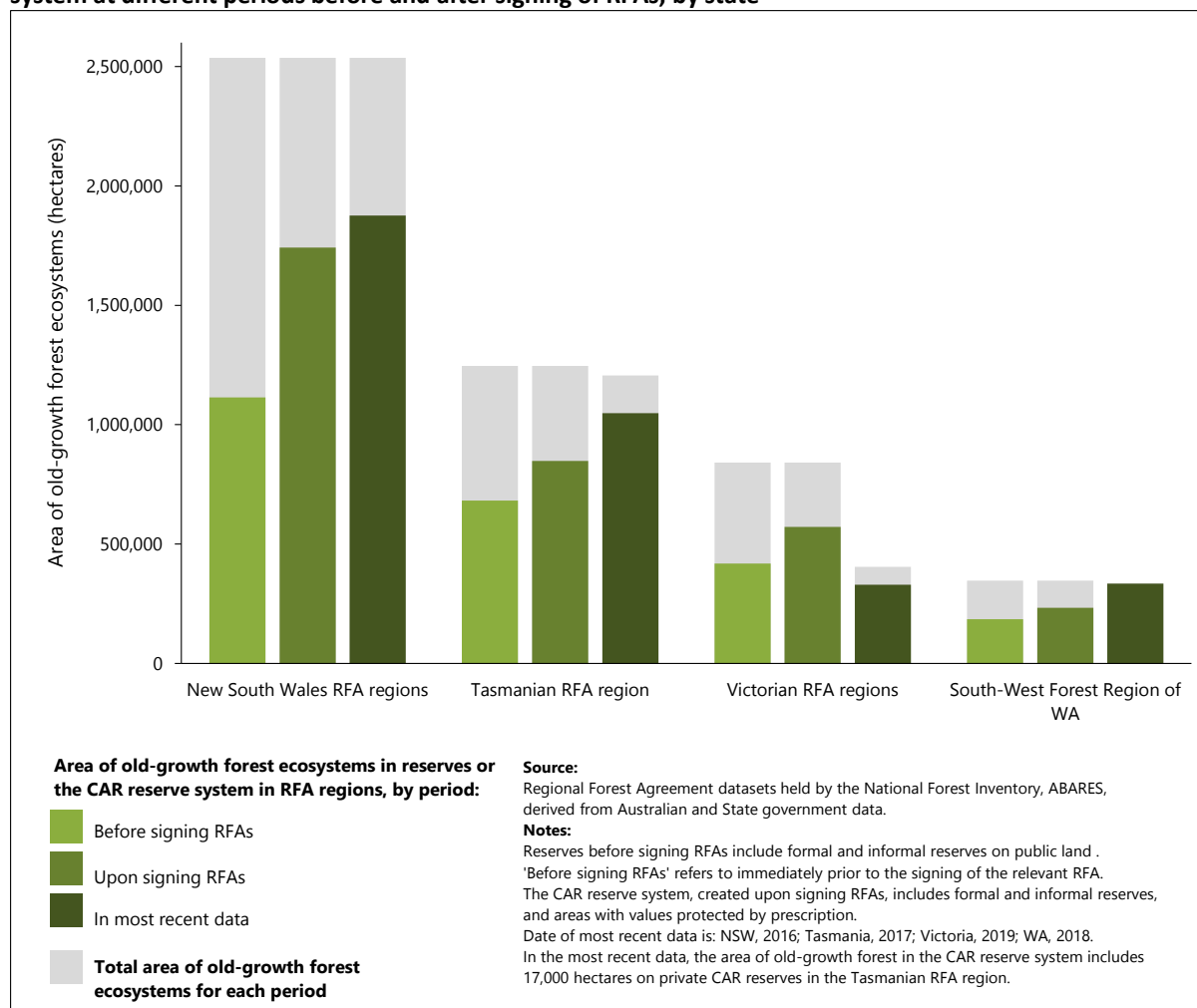
Table A5 summarises the formal and informal reservation outcomes from the RFAs for native forest and non-forest ecosystems, from before signing the RFAs to the most recent data. Across all ecosystems and all RFA regions, a total of 4.0 million hectares have been added to the formal and informal components of the reserve system at signing of the RFAs and subsequently, which is a 54% increase on the area of ecosystems in RFA regions reserved prior to signing of the RFAs. This increase includes 3.7 million hectares of additional reserved native forest, a 68% increase; the magnitude of this increase varies between 46% and 91% across the different RFA states.

## 4.2 Old-growth forest

A total of 527 old-growth forest types were identified nationally across the RFA regions at RFA signing. A total of 364 old-growth forest types were reported in the New South Wales RFA regions, 43 types in the Tasmanian RFA region, 101 in the Victorian RFA regions, and 19 in the

South-West Forest Region of Western Australia RFA region (Table A6). Figure 3 summarises the total area of old-growth forest ecosystems in RFA regions by state, and the area in reserves and the CAR reserve system at different periods before and after signing of the RFAs.

**Figure 3 Total area of old-growth forest ecosystems in RFA regions and the area in reserves or the CAR reserve system at different periods before and after signing of RFAs, by state**



The data used to create this figure, together with other data in this report, are available in Microsoft Excel at [doi.org/10.25814/3z94-9957](https://doi.org/10.25814/3z94-9957).

A total of 1.0 million hectares of old-growth forest was added to formal and informal reserves as a result of signing the RFAs, resulting in a total of 3.4 million hectares of old-growth forest in formal and informal reserves out of a total of 5.0 million hectares of old-growth forest present at that time on public and private land (Table A6). This was an increase of 41% in the area of old-growth forest reserved. The RFAs resulted in state totals of between 67% and 69% of old-growth forest reserved, with the proportion reserved in individual RFA regions varying between 57% in the North East Victoria and Upper North East (NSW) RFA regions, and 89% in the West Victoria RFA region.

Table A7 reports changes to old-growth forest areas, and to old-growth forest areas reserved, since signing the RFAs. The area of old-growth forest decreased in all RFA regions for which old-growth forest areas were updated and reported, varying from 3% decreases in the Tasmanian RFA region and the South-West Forest Region of Western Australia RFA region to a 67% decrease in the Central Highlands RFA region of Victoria.

- In New South Wales, a total of 2.5 million hectares of old-growth forest was reported at the time the RFAs were signed and this extent has not been updated since. The area of



old-growth forest in reserves increased from 1.1 million hectares (44%) to 1.7 million hectares (69%) at the time the RFAs were signed, and increased by a further 0.2 million hectares to 1.9 million hectares (79%) in the most recent data.

- A total of 1.2 million hectares of old-growth forest was reported at the time the Tasmanian RFA was signed, with a similar figure being reported for 2017 by the Forest Practices Authority (2017). The loss of 40 thousand hectares of old-growth forests in Tasmania was the result of forest harvesting and the conversion of native forest to plantations and agriculture. A total of 0.85 million hectares of old-growth forest was reserved with the signing of the Tasmanian RFA. As a result of the Tasmanian Community Forest Agreement 2005, a further 0.12 million hectares of old-growth forest was added to formal and informal reserves in Tasmania, including 9 thousand hectares in private forest reserves (Australian and Tasmanian Governments 2007). By 2017 a total of 1.0 million hectares of old-growth forest in the Tasmanian RFA region was in the CAR reserve system (FPA 2017).
- During the period between signing the Victorian RFAs and 2009, a total of 1.2 million hectares of multiple-use forest and 0.94 million hectares of nature conservation reserves were burnt in Victoria by intense, broad-scale wildfires across three fire seasons (2002–03, 2006–07 and 2009; MIG and NFISC 2013). The areas burnt included large areas of identified old-growth forest. In addition to loss by wildfire, some old-growth forest areas in Victoria have been harvested.
- The 11 thousand hectare (3%) reduction in reported area of old-growth forest in the Western Australia RFA region was a result of improved mapping of old-growth forest, combined with loss from various agents including disease and fire. Subsequent to signing the Western Australia RFA, harvesting was excluded from all old-growth forest in that state, as a result of implementation of the state's old-growth policy (Australian and Western Australian Governments 2013). This resulted in the area of old-growth forest in formal and informal reserves in that region increasing to 0.32 million hectares, with a total of 0.33 million hectares in the CAR reserve system (Table A7).

Updated modelling of areas of old-growth forest produced in 2018 (Victorian and Australian Governments 2019) reported old-growth forest in the Victorian RFA regions was 0.44 million hectares (52%) less than the area of old-growth forest identified prior to signing of the Victorian RFAs (Table A7). This included a 67% decrease in the area of old-growth forest in the Central Highlands RFA region of Victoria. This modelling also identified old-growth forest in 167 ecosystems (EVCs) across the Victorian RFA regions – 66 more than the 101 old-growth forest types identified prior to the signing of the RFAs. Although the area of mapped old-growth forest has decreased, the number of old-growth forest ecosystems has increased as a result of changes in mapping methods, and there are now numerous old-growth ecosystems with very small (<50 ha) areas.

The majority (66%, 0.29 million hectares; Table A8) of the reduction in old-growth forest area in Victoria was within the formal and informal reserve system, reflecting the proportion of old-growth forest in reserves. Losses of old-growth forest from non-reserve areas were primarily a result of wildfires, but included some loss due to harvesting (Australian and Victorian Governments 2009). The old-growth forest areas burnt by wildfire or harvested have become either regrowth or mixed aged-forest.

## 4.3 Wilderness

The *National Forest Policy Statement* (Commonwealth of Australia 1992a) and ABARES (2020) defines wilderness as:

*land that, together with its plant and animal communities, is in a state that has not been substantially modified by, and is remote from, the influences of European settlement or is capable of being restored to such a state; is of sufficient size to make its maintenance in such a state feasible; and is capable of providing opportunities for solitude and self-reliant recreation.*

While the RFA process placed emphasis on forested wilderness, a mosaic of forest and non-forest vegetation types was and is included within largely forested wilderness areas (JANIS 1997). The combined extent of forest and non-forest ecosystems in wilderness areas was used to determine whether potential wilderness areas met the JANIS (1997) area thresholds, which were for individual areas encompassing forested wilderness to be greater than or equal to 8 thousand hectares, with lower size thresholds applying to areas contiguous with the sea or adjoining wilderness areas in adjacent regions. For the purpose of developing the CAR reserve system in RFA regions, high-quality wilderness areas were defined as areas of 8 thousand hectares or more with a National Wilderness Inventory (NWI) wilderness quality of greater than or equal to 12 (see Lesslie and Maslen 1995).

*Australia's State of the Forests Report 1998* (National Forest Inventory 1998), Map 13<sup>6</sup>, shows the Australian distribution of “formally recognised” (high-quality) wilderness areas containing forest that were used for wilderness assessment during the development of RFAs. The JANIS (1997) target stipulated that “ninety percent, or more if practicable, of the area of high quality wilderness that meet minimum area requirements should be protected in reserves” (see Davey 2018).

Figure 4 summarises the total area of wilderness in RFA regions by state, and the area in reserves and the CAR reserve system at different periods before and after signing of the RFAs.

Collectively, signing of the RFAs resulted in the area of reserved wilderness across all the RFA regions increasing to 3.7 million hectares, with 0.33 million hectares of wilderness added to the reserve system as formal and informal reserves (Table A9).

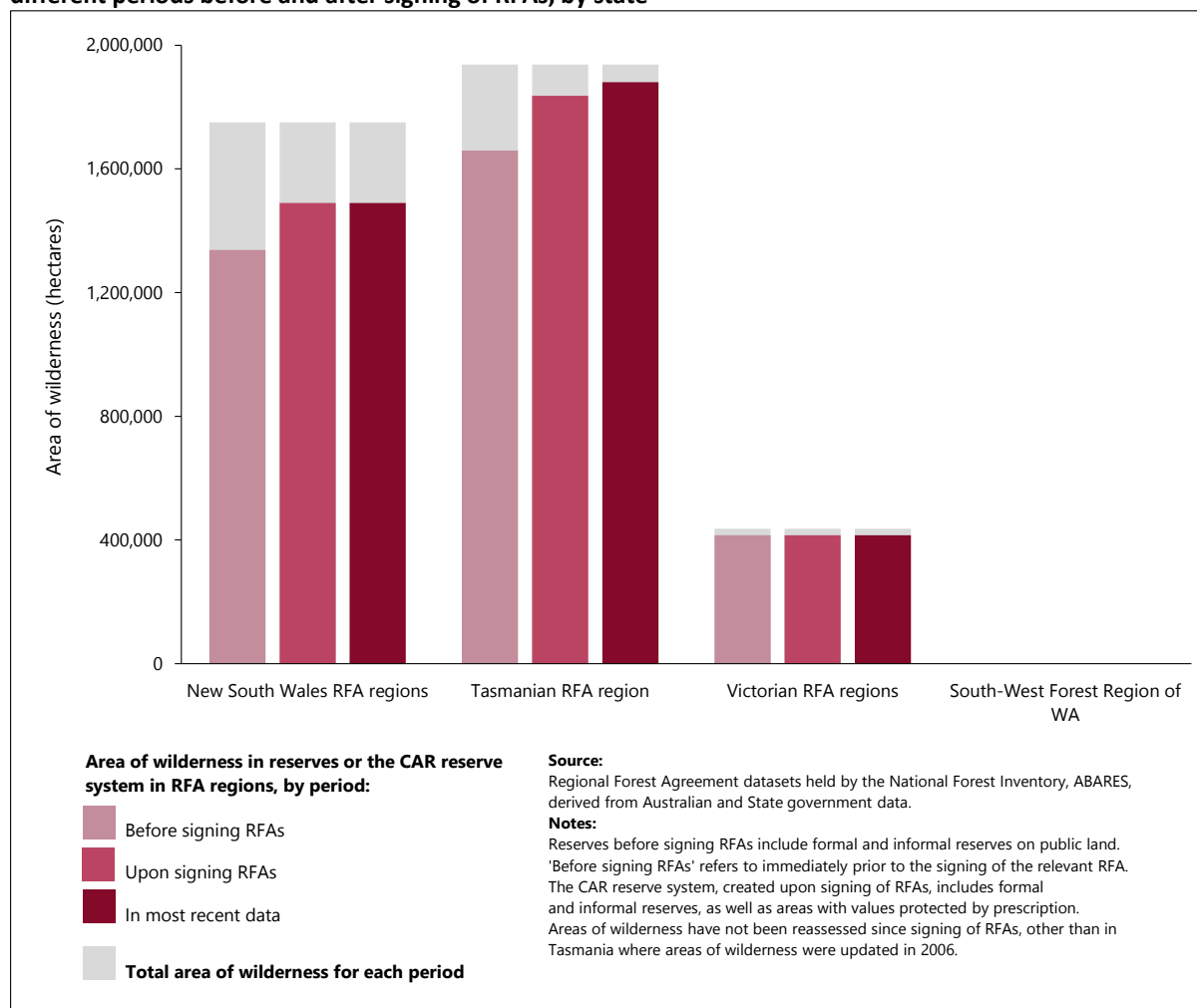
- The New South Wales RFAs resulted in 0.15 million hectares of further wilderness being reserved, with the most notable reservation of wilderness being in the Upper North East RFA region, in which the area of wilderness increased by 47%. Australian and New South Wales Governments (2009) report that reservation of wilderness in New South Wales increased in 2006, and that nearly all wilderness on public lands in that state is reserved. However, no data on areas of reserved wilderness have been reported for New South Wales since the RFAs were signed.
- Another 45 thousand hectares of wilderness were subsequently added by the Tasmanian Community Forest Agreement 2005, and the Tasmanian RFA and the Tasmanian Community Forest Agreement 2005 together added 0.22 million hectares of wilderness to the Tasmanian reserve system (Table A9).
- Victoria had already met the JANIS target of 90% of wilderness being in the CAR reserve system before the signing of RFAs in that state, and no further wilderness was added to the reserve system.
- Table A9 reports no wilderness in the South-West Forest Region of Western Australia RFA region, reflecting available area data. However, the ‘Walpole Wilderness’ in the region is being managed in the CAR reserve system for its wilderness value, and areas of

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<sup>6</sup> See Map 13 [data.daff.gov.au/data/warehouse/asofrd9ablf001/asofrd9ablf001\\_1998/maps.pdf](http://data.daff.gov.au/data/warehouse/asofrd9ablf001/asofrd9ablf001_1998/maps.pdf)

the Walpole Wilderness are potential candidate wilderness areas that could meet the JANIS guidelines and thresholds for wilderness, including through the restoration of wilderness value (DEC and CCWA 2008). DEC and CCWA (2008) stated that the status of the 'Walpole Wilderness' as a high-quality wilderness area will need to be reassessed under the JANIS criteria. Western Australia has not reported any change in the area of wilderness in the South-West Forest Region of Western Australia RFA region.

**Figure 4 Total area of wilderness in RFA regions and the area in reserves or the CAR reserve system at different periods before and after signing of RFAs, by state**



The data used to create this figure, together with other data in this report, are available in Microsoft Excel at [doi.org/10.25814/3z94-9957](https://doi.org/10.25814/3z94-9957).

## 4.4 Net harvestable area

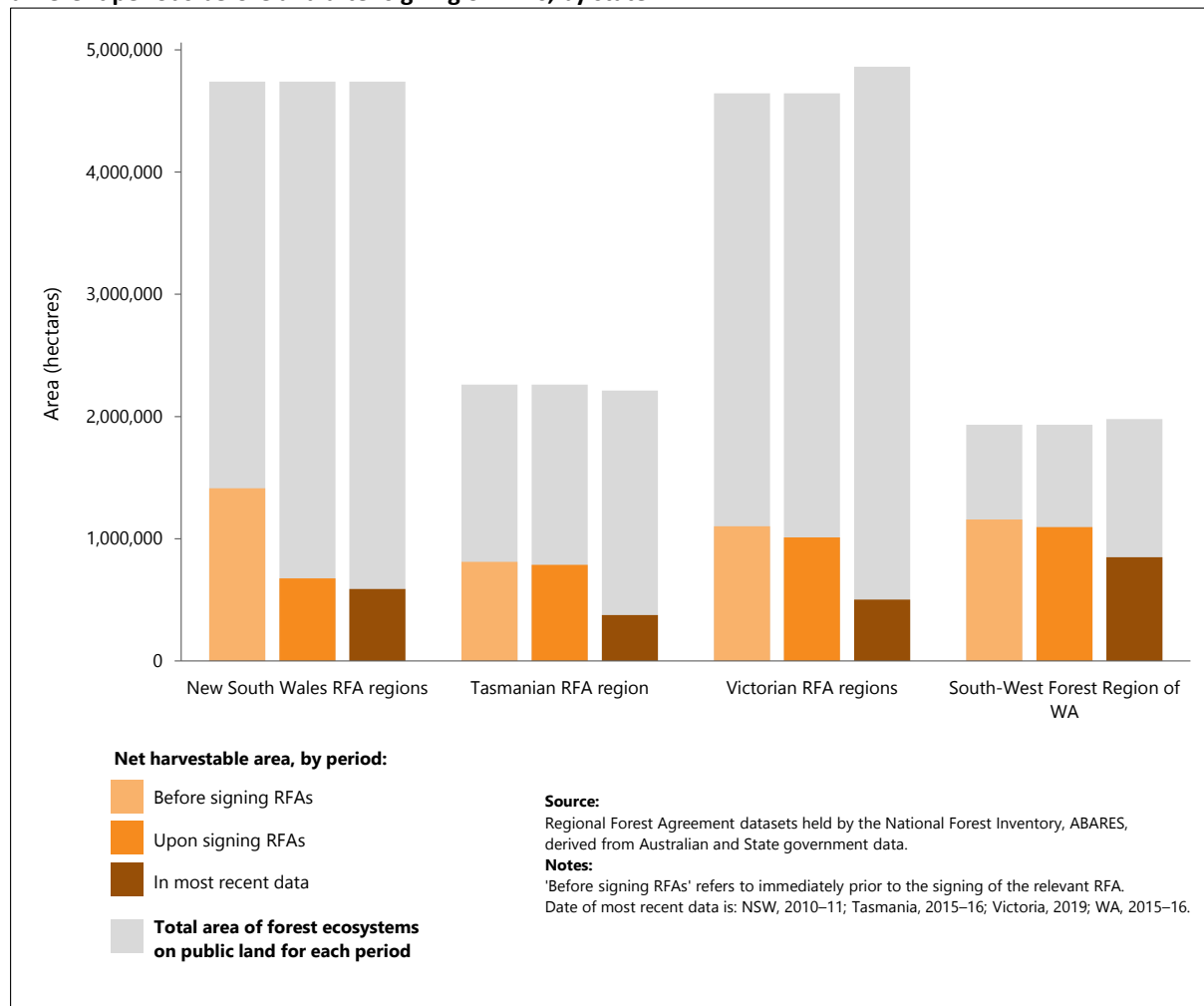
Net harvestable area (NHA) is calculated as the net area of native forest on multiple-use public forest tenure available and suitable for wood harvesting, after allowing for local and/or operational constraints (MIG and NFISC, 2018). NHA is a measure of the area of public native forest that is available to supply forest products to the forest industry. Changes to NHA over time is an indicator of the security of access of the forest industry to native forest resources. NHA is used as the basis for calculations of sustainable yield, as it is this area that supplies harvested wood. Increases in the prescription component of the CAR reserve system are a significant factor driving reductions in the NHA available for timber production.

To determine the NHA, mapped and unmapped exclusions from harvesting are identified and removed from the area of available and suitable forest. These exclusions can include formal and informal reserves; areas with values that are managed by prescription, such as for threatened

fauna, flora and ecosystems; areas excluded under codes of practice conditions, operational restrictions or constraints; and non-forest, non-merchantable forest ecosystems and hardwood and softwood plantations.

Figure 5 summarises the total area of forest ecosystems on public land and the NHA in RFA regions by state at different periods before and after signing of the RFAs.

**Figure 5 Total area of forest ecosystems on public land, and the net harvestable area, in RFA regions at different periods before and after signing of RFAs, by state**



The data used to create this figure, together with other data in this report, are available in Microsoft Excel at [doi.org/10.25814/3z94-9957](https://doi.org/10.25814/3z94-9957).

Table A10 summarises the changes in NHA at signing of the RFAs, and subsequently. The signing of RFAs resulted in a reduction of 0.91 million hectares (20%) in the NHA of public native forest across all RFA regions. The total reduction of NHA in New South Wales at signing of the RFA was higher, at 52%, and varied by region from 23% in the Eden RFA region to 63% in the Lower North East RFA region (Table A10). The implementation of new biodiversity prescriptions and protocols developed during the RFA assessments, together with new reserves, were the reasons for these reductions. Reduction in NHA at signing the other RFAs varied from 3% in Tasmania, to 5% in Western Australia, and between 1% and 17% in Victorian RFA regions.

Since signing the agreements, there has been a further reduction in NHA in RFA regions of 1.3 million hectares (35%) (Table A10). This has resulted from further reservation, an increase in areas excluded from harvesting by management prescriptions, and improved inventory identifying non-merchantable or operationally constrained forest stands.

- The further reduction in NHA since signing the RFAs varied from 11% in the Upper North East (NSW) RFA region to 69% in the Gippsland RFA region; the exception was an increase in NHA in the Southern New South Wales RFA region in 2010–11 as a result of reassessment of the merchantability<sup>7</sup> of stands previously excluded from harvesting.
- Changes to NHA reported for Tasmania in 2005–06, 2010–11 and 2015–16 were the result of further reservation in the Tasmanian Community Forest Agreement 2005, the application in 2010–11 of forest mapping techniques that improved the identification of areas for management by prescription and of non-merchantable or operationally constrained forest stands, and changes in land tenure and management that occurred in 2013 that included reclassification of significant areas of multiple-use public forest as World Heritage areas, other reserves or other Crown land.
- Reductions in NHA in Victorian RFA regions reported in 2005–06 and again in 2010–11 were the result of the incorporation of new forest inventory data and the implementation of new sustainable yield methodology, in turn a requirement of the RFA. Some of the reduction in NHA in Victoria was also a result of further reservation and application of management prescriptions, particularly in the West Victoria RFA region that experienced a 66% reduction in NHA since signing of that agreement (Table A10). Wildfire effects on the merchantability of forest stands contributed to the reduction in NHA in the most recent data for East Gippsland and Central Highlands RFA regions.
- The reductions in NHA between the signing of the South-West Forest Region of Western Australia RFA in 1999, and 2005–06, resulted from implementation of the state's 1999 old-growth policy, as well as adjustments through forest management planning processes to improve implementation of ecologically sustainable forest management (see Ferguson et al. 2001, 2003).

Taken together, the NHA within RFA regions has reduced by 2.2 million hectares (48%) from 4.5 million hectares before the signing of the RFAs to 2.3 million hectares in the most recent data. These reductions in NHA have been a major determinant of both sustainable yield and actual harvests from public forests from regions with RFAs (Figure 6).

## 4.5 Sustainable yields

### 4.5.1 Sustainable yield in an ecologically sustainable forest management system

In addition to being part of ecologically sustainable forest management, sustainable wood yields are a key component of forest management under RFAs, as they provide the security of supply needed for a competitive forest industry, and promote both regional ecologically sustainable development and regional conservation goals. This occurs through specification of wood flows that are non-declining in perpetuity for high-quality/high-value wood products (typically sawlogs) from multiple-use native forests. In addition to products from native forests, sustainable yield strategies under the RFAs for north-eastern New South Wales and Tasmania incorporated the supply from public hardwood plantations of products deemed to meet equivalent quality standards to wood products derived from native forests. Davey (2018) discusses the accreditation of sustainable yield during the RFA process.

The component of the CAR reserve system comprising areas managed by prescription, such as through the application of codes of forest practice, is an important restriction on net harvestable

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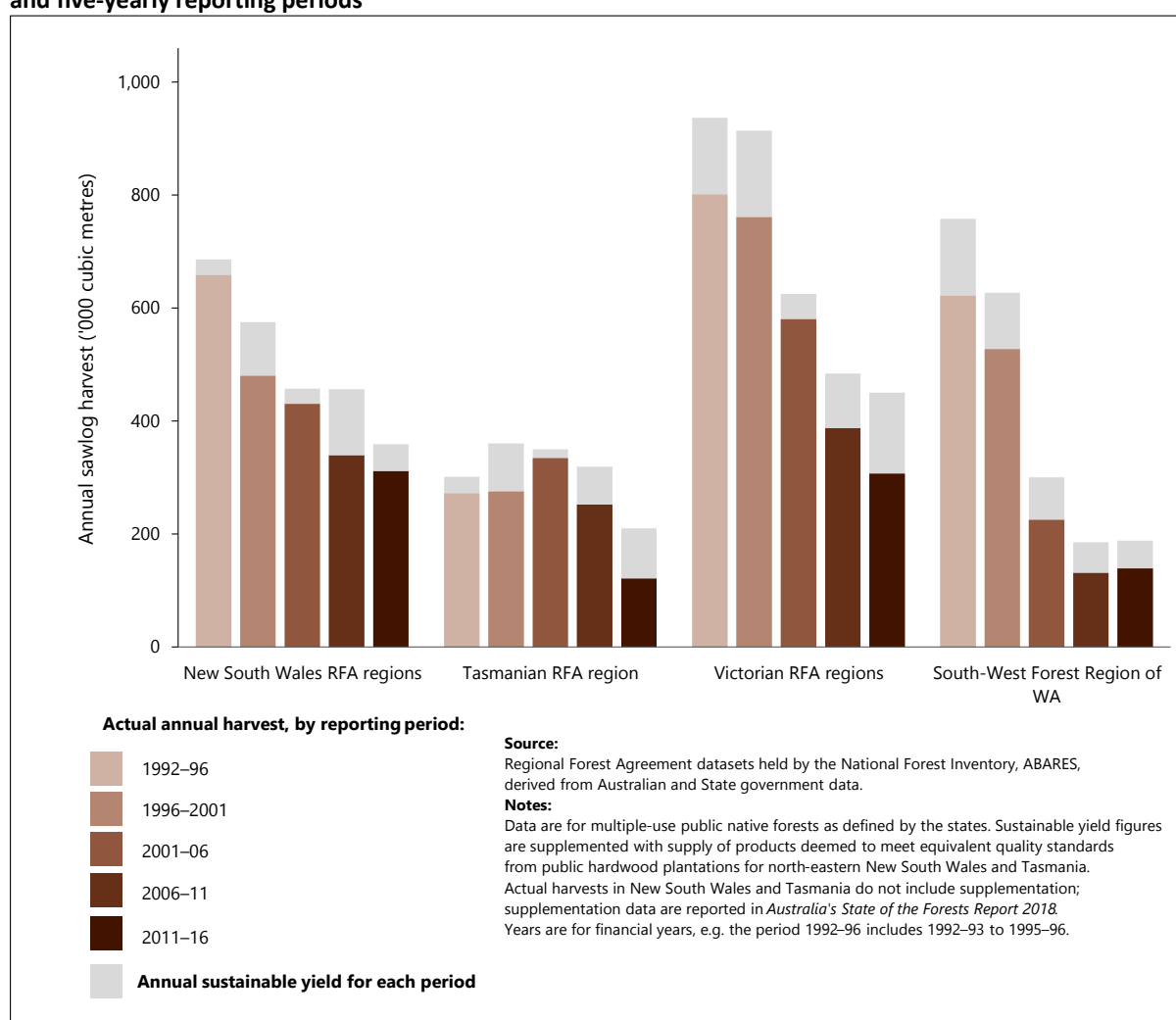
<sup>7</sup> Merchantability: with respect to a tree or tree species, suitability for production or commercial wood products. An emphasis is placed on commercial production of sawlogs or high-value equivalents (ABARES 2020).

area and on the area over which sustainable yield of wood products is calculated. Increasing the area managed by prescription leads to reductions in sustainable yields.

#### 4.5.2 Sustainable and actual yield

Sustainable yield and actual yield for multiple-use public forests in RFA regions of each state are presented in Table A11 and Figure 6, across five consecutive 5-year reporting periods. The first reporting period (1992–96) covers the period before commencement of the RFAs. The second period (1996–2001) covers the period of assessment and finalisation of the RFAs; during this second period, harvesting in regions developing RFAs was confined to public forests not in moratorium until their status was resolved in the RFA, which resulted in actual average yield being well below sustainable yield across all states. The third, fourth and fifth reporting periods (2001–06, 2006–11 and 2011–16 respectively) generally coincide with the five-year, ten-year and fifteen-year reviews of the RFAs.

**Figure 6 Average annual harvest and sustainable yield for multiple-use public forest in RFA regions, by state and five-yearly reporting periods**



The data used to create this figure, together with other data in this report, are available in Microsoft Excel at [doi.org/10.25814/3z94-9957](https://doi.org/10.25814/3z94-9957).

Substantial decreases in sustainable and actual yields from RFA regions were experienced across all states from 1992–96 to 2011–16 (Table A11, Figure 6). Across all RFA regions, the total sustainable yield for the period 1992–96 was 2.7 million cubic metres per year, with the actual yield across the same period being 2.4 million cubic metres per year. In the latest available figures, across the RFA regions for the period 2011–16, the total sustainable yield was 1.2 million cubic metres per year and the actual yield was 0.88 million cubic metres per year.

This is a total reduction of 1.5 million cubic metres per year in both the sustainable yield and the actual yield over this time, and represents a 55% reduction in sustainable yield and a 63% reduction in actual yield.

- The New South Wales review of sustainable yield (Vanclay 2002) resulted in improvements to the models and predictions in the forest management system for sustainable yield (Australian and New South Wales Governments 2009). Recommendations on further improvements regarding sustainable yield calculations for public native forest were made by the New South Wales Auditor General (2009). Increased reservation resulting in a decreased net harvestable area (Table A10) was the main reason for decreases in sustainable yield (Table A11, Figure 6) following signing of RFAs in New South Wales and subsequently (Australian and New South Wales Governments 2009, NSW Auditor General 2009).
- After the signing of the Tasmanian RFA, the Tasmanian Government published a review of sustainable high-quality sawlog supply levels from public land (Forestry Tasmania 1998) and its methodology for calculating sustainable yield (Whiteley 1999). Two reviews of sustainable high-quality sawlog supply levels from public land were then published at the five-year and ten-year reviews of this agreement (Forestry Tasmania 2002, 2007). As part of these latter reviews, the data, systems and processes used for calculating sustainable yield were independently audited and reviewed (by Turner and Brack in 2002, and by Brack in 2007); a summary report from the independent reviewers formed part of the published report for each review (Forestry Tasmania 2002, 2007). These independent reviews found that Forestry Tasmania was calculating sustainable yield correctly and appropriately based on the policies applying to harvesting public native forests and supplementation by a hardwood plantation resource. Figure 6 shows how the changes in sustainable yield across reporting periods in Tasmania reflects these changes in forest policies; the decrease in sustainable yield in the second last of these reporting periods was the result of the Tasmanian Community Forest Agreement 2005. The further decrease in sustainable yield in the last period was the result of the 2012–13 Tasmanian Forest Agreement process<sup>8</sup> with significant areas of multiple-use public native forest being reclassified as World Heritage area, reserves and other Crown land (MIG and NFISC 2018). MIG and NFISC (2018) described the sustainable yield strategy to be applied following the 2012–13 Tasmanian Forest Agreement process.

The review of sustainable yield by Forestry Tasmania (2007) was considered by the RFA reviewer but was not publicly released until after the public comment period for the ten-year review of the agreement (Ramsay 2008). As a consequence, issues of sustainable yield were not fully addressed in the recommendations of Ramsay (2008) or in the subsequent response by governments to this RFA review (Australian and Tasmanian Governments 2010). The validity of the sustainable yield strategy, and in particular the substantial proportion of yield anticipated from public hardwood plantations after 2023, were subsequently raised in public discussion, and led to a further review by Ferguson (2012). A subsequent review (Forestry Tasmania 2014) incorporated into sustainable yield figures the outcomes of the 2012–13 Tasmanian Forest Agreement process and the findings of Burgman and Robinson (2012) and Ferguson (2012).

- In Victoria, the findings of the review by Vanclay and Turner (2001) resulted in significant decreases in sustainable yield from public forests across Victorian Forest Management Areas (DNRE 2002), and consequential reductions in sawlog yield in

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<sup>8</sup> Described in [environment.gov.au/land/forests/intergovernmental-agreement](http://environment.gov.au/land/forests/intergovernmental-agreement)



Victorian RFA regions in periods three, four and five (Figure 6). Many of the decreases were the result of improved inventory and modelling systems and improved mapping of net harvestable area, resulting from initiatives agreed to at the signing of Victorian RFA. Other decreases were from wildfire impacts on timber resources in eastern Victoria during three fire seasons (2002–03, 2006–07 and 2009; MIG and NFISC 2013).

- Findings and recommendations from the Ferguson et al. (2001, 2003, 2013) reviews for the South-West Forest Region of Western Australia RFA region were incorporated into the Western Australian ten-year Forest Management Plans (CCWA 2004, 2013), and periodically monitored (CCWA 2012). The sustainable yield in the South-West Forest Region of Western Australia RFA decreased from 0.76 million cubic metres per year in 1992–93 to 1995–96 to 0.19 million cubic metres per year in 2011–12 to 2015–16. The actual yield in this period decreased from 0.62 million cubic metres per year to 0.14 million cubic metres per year (Table A11, Figure 6). Decreases in yield (Table A7, Figure 6) were the result of increased reservation of old-growth forest, declines in yield attributed to climate change (with a drying climate reducing productivity), to the spread of *Phytophthora* dieback, and to adjustments to modelling assumptions based on improved information (Ferguson et al. 2003, 2013, CCWA 2004, 2013).

## 5 Conclusion

The Comprehensive, Adequate and Representative (CAR) reserve system implemented under Regional Forest Agreements (RFAs) comprises formal reserves, informal reserves, and areas with values protected by management prescription, as well as areas protected on private land.

Signing of the RFAs incorporated 3.0 million hectares of previously unreserved or unprotected native forest ecosystems and 0.25 million hectares of previously unreserved or unprotected native non-forest ecosystems into the CAR reserve system on public land, including 1.0 million hectares of previously unreserved or unprotected old-growth forest and 0.33 million hectares of previously unreserved or unprotected wilderness. Further reservation, as well as conservation through management prescriptions, subsequently added to the area of the CAR reserve system in RFA regions, which by 2019 comprised 10.0 million hectares of native forest ecosystems and 2.3 million hectares of non-forest ecosystems, including 3.6 million hectares of old-growth forest and 3.8 million hectares of wilderness.

Implementation of RFAs resulted in a reduction of 0.91 million hectares in the net harvestable area of public native forest. Subsequent progressive increases in the area of reserved forest, and increased management prescriptions, have decreased the net harvestable area by a further 1.3 million hectares. These outcomes have reduced the sustainable level of timber that can be extracted from public forests, with the sustainable yield in the five-year period to 2016 being 45% of the sustainable yield before RFA processes commenced in 1995–96, and the actual yield being 37% of the actual yield before RFA processes commenced.

# Appendix A: Regional Forest Agreement tabular data

Table A1 Areas of native forest and non-forest ecosystems in RFA regions, and areas reserved before and immediately after RFAs were signed

State and RFA region	Land area (ha)	Terrestrial native ecosystems	Modelled area pre-1750 (ha)	Area on private land pre-RFA (ha)	Area on public land pre-RFA (ha)	Total area pre-RFA (ha)	Total area of formal and informal reserves pre-RFA (ha)	Area added to formal and informal reserves at RFA (ha)	Total area of formal and informal reserves post-RFA (ha)	Area protected by prescription post-RFA (ha)	Total area added to CAR reserve system at RFA (ha)	Total area of CAR reserve system post-RFA (ha)	Count of ecosystem types post-RFA
Column code	A		B	C	D	E =C+D	F	G	H =F+G	I	J =G+I	K =F+J	
Derivation of figures													
<b>New South Wales</b>													
Eden	814,000	Forests	769,962	125,114	408,298	533,412	152,212	96,184	248,396	7,562	103,746	255,958	56
		Non-forests	39,053	6,334	11,882	18,215	8,189	1,660	9,848	323	1,983	10,171	17
		Total	809,015	131,448	420,179	551,627	160,401	97,844	258,245	7,885	105,729	266,130	73
Upper North East	3,907,000	Forests	3,800,564	1,193,805	972,796	2,166,601	221,159	334,956	556,115	107,051	442,007	663,167	153
		Non-forests	105,686	16,636	44,648	61,284	22,584	12,300	34,884	6,900	19,200	41,784	9
		Total	3,906,250	1,210,441	1,017,444	2,227,885	243,743	347,256	590,999	113,951	461,207	704,951	162
Lower North East	5,790,000	Forests	5,641,447	1,434,756	1,739,842	3,174,598	724,471	516,094	1,240,565	96,101	612,195	1,336,666	190
		Non-forests	145,951	6,158	32,615	38,773	22,564	5,895	28,459	1,877	7,772	30,336	9
		Total	5,787,398	1,440,914	1,772,457	3,213,371	747,035	521,988	1,269,023	97,978	619,966	1,367,002	199
Southern NSW	4,512,000	Forests	4,100,264	827,875	1,617,725	2,445,600	911,373	362,950	1,274,323	31,087	394,037	1,305,410	132
		Non-forests	390,532	15,652	96,929	112,581	91,677	3,612	95,289	295	3,907	95,584	27
		Total	4,490,796	843,527	1,714,654	2,558,181	1,003,050	366,562	1,369,612	31,382	397,944	1,400,994	159
<b>Total New South Wales RFA regions</b>	15,023,000	Forests	14,312,237	3,581,550	4,738,661	8,320,211	2,009,215	1,310,184	3,319,399	241,802	1,551,986	3,561,201	406
		Non-forests	681,222	44,780	186,074	230,853	145,014	23,466	168,480	9,395	32,861	177,875	53
		Total	14,993,459	3,626,330	4,924,734	8,551,064	2,154,229	1,333,650	3,487,879	251,197	1,584,847	3,739,076	459
<b>Tasmania</b>													
Tasmanian	6,796,000	Forests	4,821,410	942,820	2,261,880	3,204,700	977,860	284,180	1,262,040	2,200	286,380	1,264,240	50
		Non-forests	1,804,000	53,500	1,496,500	1,550,000	1,326,740	149,960	1,476,700	5,800	155,760	1,482,500	2
		Total	6,625,410	996,320	3,758,380	4,754,700	2,304,600	434,140	2,738,740	8,000	442,140	2,746,740	52
<b>Victoria</b>													
East Gippsland	1,225,000	Forests	1,163,497	64,017	1,014,040	1,078,057	496,361	10,293	506,653	35,796	46,089	542,449	29
		Non-forests	46,947	1,660	39,667	41,327	29,694	323	30,017	9,434	9,757	39,451	16
		Total	1,210,444	65,677	1,053,707	1,119,384	526,055	10,615	536,671	45,229	55,844	581,900	45
Central Highlands	1,130,000	Forests	1,040,473	107,045	584,676	691,721	171,322	85,967	257,290	28,437	114,404	285,727	25
		Non-forests	89,476	8,241	11,037	19,278	6,290	1,408	7,698	446	1,854	8,144	15
		Total	1,129,949	115,286	595,713	710,999	177,612	87,376	264,988	28,883	116,259	293,871	40

State and RFA region	Land area (ha)	Terrestrial native ecosystems	Modelled area pre-1750 (ha)	Area on private land pre-RFA (ha)	Area on public land pre-RFA (ha)	Total area pre-RFA (ha)	Total area of formal and informal reserves pre-RFA (ha)	Area added to formal and informal reserves at RFA (ha)	Total area of formal and informal reserves post-RFA (ha)	Area protected by prescription post-RFA (ha)	Total area added to CAR reserve system at RFA (ha)	Total area of CAR reserve system post-RFA (ha)	Count of ecosystem types post-RFA
North East	2,318,000	Forests	2,278,860	173,602	1,077,910	1,251,511	372,279	173,599	545,878	110,874	284,473	656,752	48
		Non-forests	38,870	1,230	27,120	28,350	22,567	2,438	25,005	0	2,438	25,005	9
		Total	2,317,730	174,832	1,105,030	1,279,861	394,846	176,037	570,883	110,874	286,911	681,757	57
Gippsland	2,662,000	Forests	2,313,312	179,340	1,246,320	1,425,660	422,730	255,490	678,220	108,692	364,182	786,912	67
		Non-forests	298,566	18,595	99,957	118,552	77,367	10,924	88,291	2,571	13,495	90,862	56
		Total	2,611,878	197,935	1,346,277	1,544,212	500,097	266,414	766,511	111,263	377,677	877,774	123
West Victoria	5,779,000	Forests	5,077,347	246,781	721,223	968,002	347,873	145,193	493,066	4,390	149,583	497,456	184
		Non-forests	585,813	8,404	94,891	103,294	75,537	11,013	86,550	0	11,013	86,550	76
		Total	5,663,160	255,185	816,114	1,071,296	423,410	156,206	579,616	4,390	160,596	584,006	260
<b>Total Victorian RFA regions</b>	13,114,000	Forests	11,873,489	770,784	4,644,169	5,414,951	1,810,565	670,542	2,481,107	288,189	958,731	2,769,296	261
		Non-forests	1,059,672	38,131	272,671	310,801	211,455	26,106	237,562	12,450	38,556	250,012	121
		Total	12,933,161	808,915	4,916,840	5,725,752	2,022,020	696,648	2,718,669	300,639	997,287	3,019,308	382
<b>Western Australia</b>													
South-West Forest Region of WA	4,257,000	Forests	3,573,550	302,596	1,932,279	2,234,875	602,627	99,132	701,759	100,982	200,114	802,741	21
		Non-forests	562,000	48,053	350,578	398,631	310,267	9,888	320,155	17,676	27,564	337,831	5
		Total	4,135,550	350,649	2,282,857	2,633,506	912,894	109,020	1,021,914	118,658	227,678	1,140,572	26
<b>Total</b>													
<b>Total all RFA regions</b>	39,190,000	Forests	34,580,685	5,597,751	13,576,988	19,174,737	5,400,267	2,364,038	7,764,305	633,172	2,997,210	8,397,478	738
		Non-forests	4,106,894	184,463	2,305,823	2,490,285	1,993,476	209,421	2,202,896	45,322	254,743	2,248,218	181
		Total	38,687,580	5,782,214	15,882,811	21,665,022	7,393,743	2,573,459	9,967,202	678,494	3,251,953	10,645,696	919

Source: Regional forest agreements datasets held by the National Forest Inventory, ABARES, derived from Australian and State Government data.

Terrestrial and estuarine waterbodies are included in the land area statements for terrestrial native ecosystems. Plantations, major waterbodies, non-native communities and cleared land are not included in the area statements for terrestrial native ecosystems. The CAR reserve system includes formal and informal reserves and areas with values protected by management prescription.

The data used is validated RFA data, usually finalised at or within six months after signing agreements or subsequent amendments or reviews. 'Pre-RFA' refers to immediately prior to the signing of the relevant RFA. 'At RFA' refers to changes on signing of the relevant RFA. 'Post-RFA' refers to immediately after the date of signing of the relevant RFA. Signing dates are: East Gippsland, 3 February 1997; Tasmanian, 8 November 1997; Central Highlands, 27 March 1998; South-West Forest Region of Western Australia, 4 May 1999; North East (Vic.), 9 August 1999; Eden, 26 August 1999; Gippsland, 31 March 2000; West Victoria, 31 March 2000; Upper and Lower North East (NSW), 31 March 2000; Southern NSW, 24 April 2001.

Count of ecosystem types post-RFA totals for a state may be less than the sum of individual region count of types as some types occur across multiple regions.

Victorian data presented in this table are based on the EVCs used at the time of signing RFAs.

Totals may not tally due to rounding.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

**Table A2 Proportions of native forest and non-forest ecosystems reserved before and immediately after RFAs were signed**

RFA state and region	Terrestrial native ecosystems	Proportion of pre-1750 area remaining by RFA date (%)	Proportion of area on public land in formal and informal reserves pre-RFA (%)	Proportional change in area of formal and informal public reserves at RFA (%)	Proportion of area on public land in formal and informal reserves post-RFA (%)	Proportion of pre-1750 area in the CAR reserve system post-RFA (%)	Proportion of pre-RFA area in the CAR reserve system post-RFA (%)	Proportion of area on public land in the CAR reserve system post-RFA (%)
Derivation of figures (Column codes from Table A1)		=E/B	=F/D	=(H-F)/F	=H/D	=K/B	=K/E	=K/D
<b>New South Wales</b>								
Eden	Forests	69	37	63	61	33	48	63
	Non-forests	47	69	20	83	26	56	86
	Total	68	38	61	61	33	48	63
Upper North East	Forests	57	23	151	57	17	31	68
	Non-forests	58	51	54	78	40	68	94
	Total	57	24	142	58	18	32	69
Lower North East	Forests	56	42	71	71	24	42	77
	Non-forests	27	69	26	87	21	78	93
	Total	56	42	70	72	24	43	77
Southern NSW	Forests	60	56	40	79	32	53	81
	Non-forests	29	95	4	98	24	85	99
	Total	57	58	37	80	31	55	82
<b>Total New South Wales RFA regions</b>	Forests	58	42	65	70	25	43	75
	Non-forests	34	78	16	91	26	77	96
	Total	57	44	62	71	25	44	76
<b>Tasmania</b>								
Tasmanian	Forests	66	43	29	56	26	39	56
	Non-forests	86	89	11	99	82	96	99
	Total	72	61	19	73	41	58	73
<b>Victoria</b>								
East Gippsland	Forests	93	49	2	50	47	50	53
	Non-forests	88	75	1	76	84	95	99
	Total	92	50	2	51	48	52	55
Central Highlands	Forests	66	29	50	44	27	41	49
	Non-forests	22	57	22	70	9	42	74
	Total	63	30	49	44	26	41	49

<b>RFA state and region</b>	<b>Terrestrial native ecosystems</b>	<b>Proportion of pre-1750 area remaining by RFA date (%)</b>	<b>Proportion of area on public land in formal and informal reserves pre-RFA (%)</b>	<b>Proportional change in area of formal and informal public reserves at RFA (%)</b>	<b>Proportion of area on public land in formal and informal reserves post-RFA (%)</b>	<b>Proportion of pre-1750 area in the CAR reserve system post-RFA (%)</b>	<b>Proportion of pre-RFA area in the CAR reserve system post-RFA (%)</b>	<b>Proportion of area on public land in the CAR reserve system post-RFA (%)</b>
North East	Forests	55	35	47	51	29	52	61
	Non-forests	73	83	11	92	64	88	92
	Total	55	36	45	52	29	53	62
Gippsland	Forests	62	34	60	54	34	55	63
	Non-forests	40	77	14	88	30	77	91
	Total	59	37	53	57	34	57	65
West Victoria	Forests	19	48	42	68	10	51	69
	Non-forests	18	80	15	91	15	84	91
	Total	19	41	37	71	10	55	72
<b>Total Victorian RFA regions</b>	Forests	46	39	37	53	23	51	60
	Non-forests	29	78	12	87	24	80	92
	Total	44	41	34	55	23	53	61
<b>Western Australia</b>								
South-West Forest Region of WA	Forests	63	31	16	36	22	36	42
	Non-forests	71	89	3	91	60	85	96
	Total	64	40	12	45	28	43	50
<b>Total</b>								
<b>Total all RFA regions</b>	Forests	55	40	44	57	24	44	62
	Non-forests	61	86	11	96	55	90	98
	Total	56	47	35	63	28	49	67

Figures are derived from figures shown in Table A1. Column codes are from Table A1 and indicate calculations undertaken. See notes to Table A1.

The CAR reserve system includes formal and informal reserves and areas with values protected by management prescription.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

**Table A3 Areas of native forest and non-forest ecosystems in RFA regions, and areas reserved in most recent data**

RFA state and region	Terrestrial native ecosystems	Total area pre-RFA (ha)	Area on public land pre-RFA (ha)	Total area of formal and informal reserves post-RFA (ha)	Area protected by prescription post-RFA (ha)	Total area of CAR reserve system post-RFA (ha)	Total area in most recent data <sup>a</sup> (ha)	Area on public land in most recent data <sup>a</sup> (ha)	Total area of formal and informal reserves in most recent data (ha)	Area protected by prescription in most recent data (ha)	Total area of CAR reserve system in most recent data (ha)	Proportion of total area that is in the CAR reserve system in most recent data (%)	Count of ecosystem types in most recent data
Column code, continuing from Table A1		E	D	H	I	K =H+I	L	M	N	O	P =N+O	=P/L	
Derivation of figures													
<b>New South Wales</b>													
Eden	Forests	533,412	408,298	248,396	7,562	255,958	533,412	408,298	282,476	10,021	292,497	55	56
	Non-forests	18,215	11,882	9,848	323	10,171	18,215	11,882	10,526	347	10,873	60	17
	Total	551,627	420,179	258,245	7,885	266,130	551,627	420,179	293,002	10,368	303,370	55	73
Upper North East	Forests	2,166,601	972,796	556,115	107,051	663,167	2,166,601	972,796	752,150	50,271	802,421	37	153
	Non-forests	61,284	44,648	34,884	6,900	41,784	61,284	44,648	44,726	260	44,986	73	9
	Total	2,227,885	1,017,444	590,999	113,951	704,951	2,227,885	1,017,444	796,876	50,531	847,407	38	162
Lower North East	Forests	3,174,598	1,739,842	1,240,565	96,101	1,336,666	3,174,598	1,739,842	1,456,574	21,477	1,478,051	47	190
	Non-forests	38,773	32,615	28,459	1,877	30,336	38,773	32,615	31,499	36	31,535	81	9
	Total	3,213,371	1,772,457	1,269,023	97,978	1,367,002	3,213,371	1,772,457	1,488,073	21,513	1,509,586	47	199
Southern NSW	Forests	2,445,600	1,617,725	1,274,323	31,087	1,305,410	2,445,600	1,617,725	1,345,982	5,099	1,351,081	55	132
	Non-forests	112,581	96,929	95,289	295	95,584	112,581	96,929	95,202	3	95,205	85	27
	Total	2,558,181	1,714,654	1,369,612	31,382	1,400,994	2,558,181	1,714,654	1,441,184	5,102	1,446,286	57	159
<b>Total New South Wales RFA regions</b>	Forests	8,320,211	4,738,661	3,319,399	241,802	3,561,201	8,320,211	4,738,661	3,837,182	86,868	3,924,050	47	406
	Non-forests	230,853	186,074	168,480	9,395	177,875	230,853	186,074	181,953	646	182,599	79	53
	Total	8,551,064	4,924,734	3,487,879	251,197	3,739,076	8,551,064	4,924,734	4,019,135	87,514	4,106,649	48	459
<b>Tasmania</b>													
Tasmanian	Forests	3,204,700	2,261,880	1,262,040	2,200	1,264,240	3,052,000	2,211,910	1,682,000	nr	1,778,000 <sup>b</sup>	58	50
	Non-forests	1,550,000	1,496,500	1,476,700	5,800	1,482,500	1,550,000	1,496,500	1,476,700	nr	1,482,500 <sup>c</sup>	96	nr
	Total	4,754,700	3,758,380	2,738,740	8,000	2,746,740	4,602,000	3,708,410	3,158,700	nr	3,260,500 <sup>b,c</sup>	71	50
<b>Victoria</b>													
East Gippsland <sup>d</sup>	Forests	1,078,057	1,014,040	506,653	35,796	542,449	1,116,700	1,019,800	547,800	91,400	634,300	57	36
	Non-forests	41,327	39,667	30,017	9,434	39,451	38,600	36,700	27,800	600	28,600	74	25
	Total	1,119,384	1,053,707	536,671	45,229	581,900	1,155,300	1,056,500	575,600	92,000	662,900	57	61
Central Highlands <sup>d</sup>	Forests	691,721	584,676	257,290	28,437	285,727	806,200	592,800	271,800	80,600	351,800	44	37
	Non-forests	19,278	11,037	7,698	446	8,144	24,700	8,900	6,800	300	7,200	29	24
	Total	710,999	595,713	264,988	28,883	293,871	830,900	601,700	278,600	80,900	359,000	43	61
North East <sup>d</sup>	Forests	1,251,511	1,077,910	545,878	110,874	656,752	1,563,300	1,157,700	589,400	235,400	828,100	53	63
	Non-forests	28,350	27,120	25,005	0	25,005	25,400	20,400	18,000	0	18,100	71	30
	Total	1,279,861	1,105,030	570,883	110,874	681,757	1,588,700	1,178,100	607,400	235,500	846,100	53	93

RFA state and region	Terrestrial native ecosystems	Total area pre-RFA (ha)	Area on public land pre-RFA (ha)	Total area of formal and informal reserves post-RFA (ha)	Area protected by prescription post-RFA (ha)	Total area of CAR reserve system post-RFA (ha)	Total area in most recent data <sup>a</sup> (ha)	Area on public land in most recent data <sup>a</sup> (ha)	Total area of formal and informal reserves in most recent data (ha)	Area protected by prescription in most recent data (ha)	Total area of CAR reserve system in most recent data (ha)	Proportion of total area that is in the CAR reserve system in most recent data (%)	Count of ecosystem types in most recent data
Gippsland <sup>d</sup>	Forests	1,425,660	1,246,320	678,220	108,692	786,912	1,594,200	1,303,800	693,600	210,100	929,300	58	64
	Non-forests	118,552	99,957	88,291	2,571	90,862	201,200	157,800	106,000	4,500	110,400	55	71
	Total	1,544,212	1,346,277	766,511	111,263	877,774	1,795,400	1,461,600	799,600	214,600	1,039,700	58	135
West Victoria <sup>d</sup>	Forests	968,002	721,223	493,066	4,390	497,456	1,736,800	786,700	547,900	5,500	554,900	32	212
	Non-forests	103,294	94,891	86,550	0	86,550	414,500	186,300	119,800	400	123,600	30	91
	Total	1,071,296	816,114	579,616	4,390	584,006	2,151,300	973,000	667,600	6,000	678,500	32	303
Total Victorian RFA regions <sup>d</sup>	Forests	5,414,951	4,644,169	2,481,107	288,189	2,769,296	6,817,200	4,860,800	2,650,500	623,000	3,298,400 <sup>e</sup>	48	261
	Non-forests	310,801	272,671	237,562	12,450	250,012	704,400	410,100	278,400	5,800	287,900	41	143
	Total	5,725,752	4,916,840	2,718,669	300,639	3,019,308	7,521,600	5,270,900	2,928,900	628,800	3,586,300 <sup>e</sup>	48	404
<b>Western Australia</b>													
South-West Forest Region of WA	Forests	2,234,875	1,932,279	701,759	100,982	802,741	2,109,880	1,978,650 <sup>f</sup>	924,559	95,875 <sup>g</sup>	1,020,434	48	21
	Non-forests	398,631	350,578	320,155	17,676	337,831	400,170	364,950 <sup>f</sup>	363,981	15,704 <sup>g</sup>	379,685	95	7
	Total	2,633,506	2,282,857	1,021,914	118,658	1,140,572	2,510,050	2,343,600 <sup>f</sup>	1,288,540	111,579 <sup>g</sup>	1,400,119	56	28
<b>Total</b>													
Total all RFA regions	Forests	19,174,737	13,576,988	7,764,305	633,172	8,397,478	20,299,291	13,790,021	9,094,241	805,743	10,020,884	49	738
	Non-forests	2,490,285	2,305,823	2,202,896	45,322	2,248,218	2,885,423	2,457,624	2,301,034	22,150	2,332,684	81	203 <sup>h</sup>
	Total	21,665,022	15,882,811	9,967,202	678,494	10,645,696	23,184,714	16,247,644	11,395,275	827,893	12,353,568	53	941

Source: Regional forest agreements, and associated *Progress with implementation of regional forest agreements* reports and *Assessment of matters pertaining to renewal of regional forest agreements* reports. Column codes D, E, H, I and J are from Table A1 and indicate calculations undertaken. See notes to Table A1.

The CAR reserve system includes formal and informal public reserves and areas of public land with values protected by management prescription. Changes in the total area of forest and non-forest ecosystems (Column L compared to Column E) are a result of improved mapping of native ecosystems, and conversion of forest ecosystems to non-forest ecosystems and non-forest ecosystems to forest ecosystems.

Date of most recent data is: New South Wales, 2016; Tasmania, 2017 for forest ecosystems and 1998 for non-forest ecosystems; Victoria, 2019; and Western Australia, 2018, unless otherwise noted. Data for Victorian RFA regions presented in this table are based on a reconciliation of the EVC classification at the date of signing RFAs with the updated EVC classification as at 2019.

<sup>a</sup> Figures for the Total area in most recent data and Area on public land in most recent data for the RFA regions in New South Wales use the original total areas identified pre-RFA.

<sup>b</sup> Figures for the Total area in the CAR reserve system in most recent data for the Tasmanian RFA region include 96,000 hectares of forest on Private CAR reserves not separately shown in this table.

<sup>c</sup> Figures for the Total area Protected by prescription in most recent data for the Tasmanian RFA region use data published in 1998.

<sup>d</sup> Areas for the components of the CAR reserve system in Victoria area calculated from reported proportion values and may not sum to the separately calculated total figures.

<sup>e</sup> Figures for the area in the CAR reserve system in most recent data for Victorian RFAs includes 26,000 hectares of forest on private land covenants not separately shown in this table.

<sup>f</sup> Figures for the Total area on public land in most recent data for the South-West Forest Region of WA are calculated using data published in 2014.

<sup>g</sup> Figures for the area Protected by prescription in most recent data for the South-West Forest Region of WA are calculated using data published in 2014.

<sup>h</sup> Count does not include non-forest ecosystems from the Tasmanian RFA region.

<sup>nr</sup>, not reported.

Totals may not tally due to rounding.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).



**Table A4 Change in area of native forest and non-forest ecosystems in RFA regions, and areas reserved in most recent data**

RFA state and region	Terrestrial native ecosystems	Change in total area between post-RFA and most recent data (ha)	Change in area on public land between post-RFA and most recent data (ha)	Change in area of formal and informal reserves between post-RFA and most recent data (ha)	Change in area of protected by prescription between post-RFA and most recent data (ha)	Change in area of CAR reserve system between post-RFA and in most recent data	
						By area (ha)	By proportion (%)
Derivation of figures (Column codes from Tables 1 and 3)		=L-E	=M-D	=N-H	=O-I	=P-K	=(P-K)/K
<b>New South Wales</b>							
Eden	Forests	0	0	34,080	2,459	36,539	14
	Non-forests	0	0	678	24	702	7
	Total	0	0	34,758	2,483	37,241	14
Upper North East	Forests	0	0	196,035	-56,780	139,254	21
	Non-forests	0	0	9,842	-6,640	3,202	8
	Total	0	0	205,877	-63,420	142,456	20
Lower North East	Forests	0	0	216,009	-74,624	141,385	11
	Non-forests	0	0	3,040	-1,841	1,199	4
	Total	0	0	219,050	-76,465	142,584	10
Southern NSW	Forests	0	0	71,659	-25,988	45,671	3
	Non-forests	0	0	-87	-292	-379	0
	Total	0	0	71,572	-26,280	45,292	3
<b>Total New South Wales RFA regions</b>	Forests	0	0	517,783	-154,934	362,849	10
	Non-forests	0	0	13,473	-8,749	4,724	3
	Total	0	0	531,256	-163,683	367,573	10
<b>Tasmania</b>							
Tasmanian	Forests	-152,700	-49,970	419,960	na	513,760 <b>a</b>	41 <b>a</b>
	Non-forests	na	na	na	na	na	na
	Total	-152,700	-49,970	419,960	na	513,760 <b>a</b>	19 <b>a</b>
<b>Victoria</b>							
East Gippsland	Forests	21,102	5,760	41,147	55,604	91,851	17
	Non-forests	-901	-2,967	-2,217	-8,834	-10,851	-28
	Total	20,201	2,793	38,929	46,771	81,000	14
Central Highlands	Forests	93,307	8,124	14,510	52,163	66,073	23
	Non-forests	-1,151	-2,137	-898	-146	-944	-12
	Total	92,156	5,987	13,612	52,017	65,129	22
North East	Forests	255,026	79,791	43,522	124,526	171,348	26
	Non-forests	-6,464	-6,720	-7,005	0	-6,905	-28
	Total	248,562	73,071	36,517	124,626	164,343	24
Gippsland	Forests	174,523	57,480	15,380	101,408	142,388	18
	Non-forests	9,396	57,843	17,709	1,929	19,538	22
	Total	183,919	115,323	33,089	103,337	161,926	18

RFA state and region	Terrestrial native ecosystems	Change in total area between post-RFA and most recent data (ha)	Change in area on public land between post-RFA and most recent data (ha)	Change in area of formal and informal reserves between post-RFA and most recent data (ha)	Change in area of protected by prescription between post-RFA and most recent data (ha)	Change in area of CAR reserve system between post-RFA and in most recent data	
						By area (ha)	By proportion (%)
West Victoria	Forests	612,621	65,477	54,834	1,110	57,444	12
	Non-forests	102,920	91,409	33,250	400	37,050	43
	Total	715,541	156,886	87,984	1,610	94,494	16
<b>Total Victorian RFA regions</b>	Forests	1,156,579	216,631	169,393	334,811	529,104 <b>b</b>	19
	Non-forests	103,800	137,429	40,838	-6,650	37,888 <b>b</b>	15
	Total	1,260,379	354,060	210,231	328,161	566,992 <b>b</b>	19
<b>Western Australia</b>							
South-West Forest Region of WA	Forests	-124,995	46,371 <b>c</b>	222,800	-5,107 <b>d</b>	217,693 <b>d</b>	27
	Non-forests	1,539	14,372 <b>c</b>	43,826	-1,972 <b>d</b>	41,854 <b>d</b>	12
	Total	-123,456	60,743 <b>c</b>	266,626	-7,079 <b>d</b>	259,547 <b>d</b>	23
<b>Total</b>							
<b>Total all RFA regions <sup>e</sup></b>	Forests	878,884	na	1,329,594	-181,375	1,244,218	15
	Non-forests	105,339	na	na	-25,749	6,833	na
	Total	984,223	na	na	-207,124	1,251,051	na

Source: Figures are derived from areas shown in Tables 1 and 3. Column codes continue from Tables 1 and 3 indicate calculations undertaken. See notes to Tables 1 and 3.

The CAR reserve system includes formal and informal public reserves and areas of land with values protected by management prescriptions. Figures for the change in the CAR reserve system between post-RFA and in most recent data for Victorian RFA regions and the Tasmanian RFA region include forest on Private CAR reserves not separately shown in this table. See footnotes **a** and **b**.

'Post-RFA' refers to immediately after the date of signing of the relevant RFA.

Date of most recent data is: New South Wales, 2016; Tasmania, 2017 for forest ecosystems and 1998 for non-forest ecosystems; Victoria, 2019; and Western Australia, 2018, unless otherwise noted.

**a** Figures for the Change in CAR reserve system between RFA and most recent data for the Tasmanian RFA region includes 96,000 hectares of forest on Private CAR reserves not separately shown in this table.

**b** Figures for the area in the CAR reserve system in most recent data for Victorian RFAs includes 26,000 hectares of forest on private land covenants not separately shown in this table.

**c** Figures for the Change in area on public land between RFA and most recent data for the South-West Forest Region of WA are calculated using data published in 2014 for the 'most recent data'.

**d** Figures for the Change in CAR reserve system between RFA and most recent data for the South-West Forest Region of WA are calculated using data for Prescriptions published in 2014.

**e** Some figures for Total for all RFA regions may not tally across columns due to the different date stamps of source data.

**na**, not available.

Totals may not tally due to rounding.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

**Table A5 Changes in areas in components of CAR reserve systems in RFA regions, by jurisdiction**

State	Terrestrial native ecosystems	Total formal and informal reserve area on public land pre-RFA (ha)	Total formal and informal reserve area in most recent data (ha)	Change in area of formal and informal reserves between pre-RFA data and most recent data		Total area in protected by prescription in most recent data (ha)	Total area of CAR reserve system in most recent data (ha)	Change in area in reserves between pre-RFA data and most recent data	
				(ha)	(%)			(ha)	(ha)
Column code, from Tables 1 and 3		F	N	=N-F	=(N-F)/F	O	P	=P-F	=(P-F)/F
Derivation of figures							=N+O		
New South Wales	Forests	2,009,215	3,837,182	1,827,967	91	86,868	3,924,050	1,914,835	95
	Non-forests	145,014	181,953	36,939	25	646	182,599	37,585	26
	Total	2,154,229	4,019,135	1,864,906	87	87,514	4,106,649	1,952,420	91
Victoria	Forests	1,810,565	2,650,500	839,935	46	623,000	3,298,400	1,487,835	82
	Non-forests	211,455	278,400	66,945	32	5,800	287,900	76,445	36
	Total	2,022,020	2,928,900	906,880	45	628,800	3,586,300	1,564,280	77
Tasmania	Forests	977,860	1,682,000	704,140	72	na	1,778,000	800,140	82
	Non-forests	1,326,740	1,476,700	149,960	11	na	1,482,500	155,760	12
	Total	2,304,600	3,158,700	854,100	37	na	3,260,500	955,900	41
Western Australia	Forests	602,627	924,559	321,932	53	95,875	1,020,434	417,807	69
	Non-forests	310,267	363,981	53,714	17	15,704	379,685	69,418	22
	Total	912,894	1,288,540	375,646	41	111,579	1,400,119	487,225	53
<b>Total all RFA regions</b>	Forests	5,400,267	9,094,241	3,693,974	68	805,743	10,020,884	4,620,617	86
	Non-forests	1,993,476	2,301,034	307,558	15	22,150	2,332,684	339,208	17
	Total	7,393,743	11,395,275	4,001,532	54	827,893	12,353,568	4,959,825	67

Source: Figures are derived from areas shown in Tables 1 and 3. Column codes from Tables 1 and 3 indicate calculations undertaken. See notes to Tables 1 and 3.

Date of most recent data is: New South Wales, 2016; Tasmania, 2015 for forest ecosystems and 1998 for non-forest ecosystems; Victoria, 2019; and Western Australia, 2018. Data for Victorian RFA regions presented in this table are based on a reconciliation of the EVC classification at the date of signing RFAs with the updated EVC classification as at 2019.

The CAR reserve system includes formal and informal public reserves and areas of public land managed by prescription.

Total area in the CAR reserve system in most recent data includes 96,000 hectares of forest on Private CAR reserves in Tasmanian and 26,000 hectares of forest on private land covenants in Victoria not separately shown in this table.

na, not available.

Totals may not tally due to rounding.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

**Table A6 Areas of old-growth forest reserved before and immediately after RFAs were signed**

State and RFA region	Land area (ha)	Total forest area pre-RFA (ha)	Area of old-growth forest pre-RFA (ha)	Area of old-growth forest in formal and informal reserves pre-RFA (ha)	Proportion of old-growth forest in reserves pre-RFA (%)	Area of old-growth forest in reserves post-RFA (ha)	Proportion of old-growth forest in reserves post-RFA (%)	Change in area of old-growth forest in reserves at RFA		Count of old-growth forest types pre-RFA
								(ha)	(%)	
Column code, continuing from previous tables <sup>a</sup>	A	E	Q	R	S =R/Q	T	U =T/Q	V =T-R	W =V/R	
<b>Derivation of figures</b>										
<b>New South Wales</b>										
Eden	814,000	533,412	98,326	47,032	48	69,596	71	22,564	48	47
Upper North East	3,907,000	2,166,601	654,599	127,010	19	371,125	57	244,115	192	144
Lower North East	5,790,000	3,174,598	1,030,023	532,859	52	738,989	72	206,130	39	179
Southern NSW	4,512,000	2,445,600	753,412	407,029	54	562,627	75	155,598	38	108
<b>Total New South Wales RFA regions</b>	<b>15,023,000</b>	<b>8,320,211</b>	<b>2,536,360</b>	<b>1,113,930</b>	<b>44</b>	<b>1,742,337</b>	<b>69</b>	<b>628,407</b>	<b>56</b>	<b>364</b>
<b>Tasmania</b>										
Tasmanian	6,796,000	3,204,700	1,246,400	682,000	55	848,700	68	166,700	24	43
<b>Victoria</b>										
East Gippsland	1,225,000	1,078,057	224,675	149,952	67	152,803	68	2,851	2	26
Central Highlands	1,130,000	691,721	25,951	14,077	54	22,000	85	7,923	56	16
North East	2,318,000	1,251,511	259,465	98,038	38	147,530	57	49,492	50	15
Gippsland	2,662,000	1,425,660	208,260	87,575	42	139,013	67	51,438	59	39
West Victoria	5,779,000	968,002	123,462	69,309	56	110,355	89	41,046	59	63
<b>Total Victorian RFA regions</b>	<b>13,114,000</b>	<b>5,414,951</b>	<b>841,813</b>	<b>418,951</b>	<b>50</b>	<b>571,701</b>	<b>68</b>	<b>152,750</b>	<b>36</b>	<b>101</b>
<b>Western Australia</b>										
South-West Forest Region of WA	4,257,000	2,234,875	346,361	184,971	53	232,825	67	47,854	26	19
<b>Total</b>										
<b>Total all RFA regions</b>	<b>39,190,000</b>	<b>19,174,737</b>	<b>4,970,934</b>	<b>2,399,852</b>	<b>48</b>	<b>3,395,563</b>	<b>68</b>	<b>995,711</b>	<b>41</b>	<b>527</b>

Source: Regional forest agreements datasets held by the National Forest Inventory, ABARES, derived from Australian and State Government data.

<sup>a</sup> Column codes A and E are from Table A1.

The data used are validated RFA data, usually finalised at or within six months after signing agreements or subsequent amendments or reviews. 'Pre-RFA' refers to immediately prior to the signing of the relevant RFA. At RFA' refers to changes on signing of the relevant RFA. 'Post-RFA' refers to immediately after the date of signing of the relevant RFA. Signing dates are: East Gippsland, 3 February 1997; Tasmanian, 8 November 1997; Central Highlands, 27 March 1998; South-West Forest Region of Western Australia, 4 May 1999; North East (Vic.), 9 August 1999; Eden, 26 August 1999; Gippsland, 31 March 2000; West Victoria, 31 March 2000; Upper and Lower North East (NSW), 31 March 2000; Southern NSW, 24 April 2001.

Count of ecosystem types post-RFA totals for a state may be less than the sum of individual region count of types as some types occur across multiple regions.

Victorian data presented in this table are based on the EVCs used at the time of signing RFAs.

Totals may not tally due to rounding.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

**Table A7 Areas of old-growth forest reserved subsequent to RFAs being signed**

State and RFA region	Area of old-growth forest pre-RFA (ha)	Area of old-growth forest in reserves post-RFA (ha)	Proportion of old-growth forest reserved post-RFA (%)	Area of old-growth forest in most recent data <sup>b</sup> (ha)	Change in area of old-growth forest between pre-RFA and most recent data <sup>b</sup> (ha)	Change in area of old-growth forest between pre-RFA and most recent data <sup>b</sup> (%)	Area of old-growth forest in formal and informal reserves in most recent data (ha)	Proportion of old-growth forest in formal and informal reserves in most recent data (%)	Area of old-growth forest in prescriptions in most recent data (ha)	Area of old-growth forest in CAR reserve system in most recent data (ha)	Proportion of old-growth forest in CAR reserve system in most recent data (%)	Count of old-growth forest types in most recent data
Column code, continuing from previous tables <sup>a</sup>	Q	T	U	X	Y =X-Q	Z =Y/Q	AA	AB =AA/X	AC	AD	AE =AD/X	
<b>New South Wales</b>												
Eden	98,326	69,596	71	98,326	0	0	68,000	69	3,000	71,000	73	47
Upper North East	654,599	371,125	57	654,599	0	0	371,000	57	76,000	447,000	68	144
Lower North East	1,030,023	738,989	72	1,030,023	0	0	767,000 <sup>c</sup>	87 <sup>d</sup>	22,000	788,000 <sup>c</sup>	90 <sup>d</sup>	182
Southern NSW	753,412	562,627	75	753,412	0	0	560,000	74	9,000	569,000	76	107
<b>Total New South Wales RFA regions</b>	<b>2,536,360</b>	<b>1,742,337</b>	<b>69</b>	<b>2,536,360</b>	<b>0</b>	<b>0</b>	<b>1,766,000<sup>c</sup></b>	<b>74<sup>d</sup></b>	<b>110,000</b>	<b>1,876,000<sup>c</sup></b>	<b>79<sup>d</sup></b>	<b>367</b>
<b>Tasmania</b>												
Tasmanian	1,246,400	848,700	68	1,206,000	-40,400	-3	1,031,000	85	nr	1,048,000 <sup>e</sup>	87	43
<b>Victoria</b>												
East Gippsland	224,675	152,803	68	88,400	-136,275	-61	63,700	72	7,800	71,400	81	45
Central Highlands	25,951	22,000	85	8,600	-17,351	-67	6,300	73	1,100	7,400	86	16
North East	259,465	147,530	57	127,800	-131,665	-51	72,100	56	26,700	98,700	77	23
Gippsland	208,260	139,013	67	73,100	-135,160	-65	48,400	66	10,000	58,600	80	63
West Victoria	123,462	110,355	89	107,300	-16,162	-13	93,500	87	0	93,500	87	116
<b>Total Victorian RFA regions</b>	<b>841,813</b>	<b>571,701</b>	<b>68</b>	<b>405,200</b>	<b>-436,613</b>	<b>-52</b>	<b>284,000</b>	<b>70</b>	<b>45,600</b>	<b>329,600</b>	<b>81</b>	<b>167</b>
<b>Western Australia</b>												
South-West Forest Region of WA	346,361	232,825	67	335,557	-10,804	-3	315,030	94	19,686	334,719	100	21
<b>Total</b>	<b>4,970,934</b>	<b>3,395,563</b>	<b>68</b>	<b>4,483,117</b>	<b>-487,817</b>	<b>-9</b>	<b>3,396,030</b>	<b>79<sup>d</sup></b>	<b>175,286</b>	<b>3,588,319</b>	<b>83<sup>d</sup></b>	<b>598</b>

Source: Regional Forest Agreements, and associated *Progress with implementation of regional forest agreements* reports and *Assessment of matters pertaining to renewal of regional forest agreements* reports, where available.

The CAR reserve system includes formal and informal public reserves and areas of public land with values protected by management prescription.

Date of most recent data is: New South Wales, 2016; Tasmania, 2017; Victoria, 2019; and Western Australia, 2018, unless otherwise noted. Data of old-growth forest area has not been updated in New South Wales (MIG and NFISC 2018) with areas of old-growth forest identified during the preparation of RFAs being used in the most recent data. Data for Victorian RFA regions presented in this table are based on a reconciliation of the EVC classification at the date of signing RFAs with the updated EVC classification as at 2019.

'Pre-RFA' refers to before the date of signing of the relevant RFA. 'At RFA' refers to changes on signing of the relevant RFA. 'Post-RFA' refers to immediately after the date of signing of the relevant RFA.

<sup>a</sup> Column codes Q, T and U from Table A6.

<sup>b</sup> Figures for area of old-growth forest in most recent data for RFA regions in New South Wales are derived from data for area of old-growth forest identified pre-RFA (Column code Q). Subsequent change calculations (column codes Y and Z) for these RFA regions are therefore zero.

<sup>c</sup> Figures for area of old-growth forest in most recent data for the Lower North East RFA region in reserves and the CAR reserve system (Column codes AA and AC), and subsequent totals for NSW and all RFA regions are calculated from an incomplete old-growth forest dataset of with a total area of 879,000 hectares.

<sup>d</sup> Figures for the proportion of old-growth forest in most recent data for the Lower North East RFA region in reserves and in the CAR reserve system (Column codes AB and AD), and subsequent totals for NSW and all RFA regions are calculated using an incomplete date old-growth forest dataset for the Lower North East RFA region with an area of old-growth forest of 879,000 hectares.

<sup>e</sup> Figures for the area of old-growth forest in CAR reserve system in the Tasmanian RFA region includes 17,000 hectares of old-growth forest on Private CAR reserves not separately shown in this table.

nr, not reported. Totals may not tally due to rounding.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

**Table A8 Old-growth forest areas in RFA regions, Victoria**

Region	Old-growth forest			Old-growth forest in reserves				Old-growth forest not in reserves				Proportion of the change in old-growth forest area that occurred in reserves (%)	Proportion of the change in old-growth forest area that occurred outside reserves (%)	Count of old-growth forest types pre-RFA	Count of old-growth forest types in most recent data
	Area pre-RFA (ha)	Area in most recent data (ha)	Change in area (ha)	Area post-RFA (ha)	Area in most recent data (ha)	Change in area (ha)	Change in area (%)	Area post-RFA (ha)	Area in most recent data (ha)	Change in area (ha)	Change in area (%)				
Column code, including from previous tables	Q	X	Y	T	AA	AF	=AF/T	AG	AH	AI	=AI/AG	=AF/Y	=AI/Y		
Derivation of figures			=X-Q			=AA-T		=Q-T	=X-AA	=AH-AG					
<b>Victoria RFA regions</b>															
East Gippsland	224,675	88,400	-136,275	152,803	63,700	-89,103	-58	71,872	24,700	-47,172	-66	65	35	26	45
Central Highlands	25,951	8,600	-17,351	22,000	6,300	-15,700	-71	3,951	2,300	-1,651	-42	90	10	16	16
North East	259,465	127,800	-131,665	147,530	72,100	-75,430	-51	111,935	55,700	-56,235	-50	57	43	15	23
Gippsland	208,260	73,100	-135,160	139,013	48,400	-90,613	-65	69,247	24,700	-44,547	-64	67	33	39	63
West Victoria	123,462	107,300	-16,162	110,355	93,500	-16,855	-15	13,107	13,800	693	5	104	-4	63	116
<b>Total</b>															
<b>Total Victorian RFA regions</b>	841,813	405,200	-436,613	571,701	284,000	-287,701	-50	270,112	121,200	-148,912	-55	66	34	101	167

Source: Regional Forest Agreements, and associated *Progress with implementation of regional forest agreements* reports and *Assessment of matters pertaining to renewal of regional forest agreements* reports, where available.

Reserves are formal and informal public reserves on public land, and do not include areas with values protected by management prescription.

Date of most recent data is 2019, with those data being based on a reconciliation of the EVC classification at the date of signing RFAs with the updated EVC classification as at 2019.

Totals may not tally due to rounding.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

**Table A9 Area of reserved high-quality wilderness before and after RFAs were signed**

Wilderness	Total land area (ha)	Area of wilderness pre-RFA (ha)	Area of wilderness on public land pre-RFA (ha)	Area of wilderness in reserves pre-RFA (ha)	Proportion of wilderness in reserves pre-RFA (%)	Area of wilderness in reserves post-RFA (ha)	Proportion of wilderness in reserves post-RFA (%)	Change in area of wilderness in reserves at RFA (ha)	Change in proportion of wilderness in reserves (%)	Area of wilderness in reserves in most recent data (ha)	Proportion of wilderness in reserves in most recent data (%)	Change in area of wilderness in reserves from post-RFA to most recent data (ha)	Proportion of wilderness reserved on public land in most recent data (%)
Column codes continue from previous tables <sup>a</sup>	A	AJ	AK	AL	AM =AL/AJ	AN	AO =AN/AJ	AP =AN-AL	AQ =AP/AJ	AR	AS =AR/AJ	AT	AU =AR/AK
Derivation of figures													
<b>New South Wales</b>													
Eden	814,000	90,858	90,353	86,394	95	90,056	99	3,662	4	90,056	99	0	100
Upper North East	3,907,000	302,300	220,383	121,056	40	177,710	59	56,654	19	177,710	59	0	81
Lower North East	5,790,000	496,967	449,476	389,386	78	420,225	85	30,839	6	420,225	85	0	93
Southern NSW	4,512,000	860,478	828,058	740,826	86	802,197	93	61,371	7	802,197	93	0	97
<b>Total New South Wales RFA regions</b>	<b>15,023,000</b>	<b>1,750,603</b>	<b>1,588,270</b>	<b>1,337,662</b>	<b>76</b>	<b>1,490,188</b>	<b>85</b>	<b>152,526</b>	<b>9</b>	<b>1,490,188</b>	<b>85</b>	<b>0</b>	<b>94</b>
<b>Victoria</b>													
East Gippsland	1,225,000	201,670	201,670	187,040	93	187,040	93	0	0	187,040	93	0	93
Central Highlands	1,130,000	0	0	0	na	0	na	0	na	na	na	na	na
North East	2,318,000	75,350	75,350	68,770	91	68,770	91	0	0	68,770	91	0	91
Gippsland	2,662,000	146,578	146,578	146,578	100	146,578	100	0	0	146,578	100	0	100
West Victoria	5,779,000	12,800	12,800	12,800	100	12,800	100	0	0	12,800	100	0	100
<b>Total Victorian RFA regions</b>	<b>13,114,000</b>	<b>436,398</b>	<b>436,398</b>	<b>415,188</b>	<b>95</b>	<b>415,188</b>	<b>95</b>	<b>0</b>	<b>0</b>	<b>415,188</b>	<b>95</b>	<b>0</b>	<b>95</b>
<b>Tasmania</b>													
Tasmanian	6,796,000	1,937,900	1,934,100	1,659,600	86	1,836,300	95	176,700	9	1,880,800	97	44,500	97
<b>Western Australia</b>													
South-West Forest Region of WA	4,257,000	0	0	0	na	0	na	0	na	0	na	na	na
<b>Total</b>													
<b>Total all RFA regions</b>	<b>39,190,000</b>	<b>4,124,901</b>	<b>3,958,768</b>	<b>3,412,450</b>	<b>83</b>	<b>3,741,676</b>	<b>91</b>	<b>329,226</b>	<b>8</b>	<b>3,786,176</b>	<b>92</b>	<b>44,500</b>	<b>96</b>

Source: Regional Forest Agreements, and Australian and Tasmanian governments (2007).

<sup>a</sup> Column code A is from Table A1.

'Pre-RFA' refers to immediately prior to the signing of the relevant RFA. 'At RFA' refers to changes on signing of the relevant RFA. 'Post-RFA' refers to immediately after the date of signing of the relevant RFA. Area of wilderness on public land in most recent data is at RFA signing except Tasmania, which was updated in 2006.

Reserves are formal and informal reserves.

Terrestrial and estuarine waterbodies are included in land area statement and wilderness area statements; marine waterbodies are excluded from land area statements and wilderness area statements.

na, not applicable.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

**Table A10 Net harvestable areas (NHA) before and after RFAs were signed**

Region	Area of forest on public land pre-RFA (ha)	NHA pre-RFA (ha)	NHA post-RFA (ha)	NHA at 2000-01 (ha)	NHA at 2005-06 (ha)	NHA at 2010-11 (ha)	NHA at 2015-16 <sup>a</sup> (ha)	NHA in most recent data <sup>b</sup> (ha)	NHA pre-RFA as proportion of forest on public land pre-RFA (%)	Change in NHA at RFA		Change in NHA between pre-RFA and most recent data <sup>b</sup>		Change in NHA between post-RFA and most recent data <sup>b</sup>		NHA in most recent data as proportion of forest on public land (%)
										(ha)	(%)	(ha)	(%)	(ha)	(%)	
Column code, continuing from previous tables <sup>c</sup>	D	AV	AW	AX	AY	AZ	BA	BB	BC =AV/D	BD =AW-AV	BE =BD/AV	BF =BB-AV	BH =BF/AV	BH =BB-AW	BI =BH/AW	BJ =BB/D
<b>New South Wales</b>																
Eden	408,298	198,315	152,651	152,651	na	124,071	na	124,071	49	-45,664	-23	-74,244	-37	-28,580	-19	30
Upper North East	972,796	422,153	177,847	177,847	na	158,285	na	158,285	43	-244,306	-58	-263,867	-63	-19,562	-11	16
Lower North East	1,739,842	554,503	207,811	207,811	na	155,751	na	155,751	32	-346,692	-63	-398,752	-72	-52,060	-25	9
Southern NSW	1,617,725	237,509	137,602	137,602	na	149,855	na	149,855	15	-99,907	-42	-87,654	-37	12,253	9	9
<b>Total New South Wales RFA regions</b>	<b>4,738,661</b>	<b>1,412,479</b>	<b>675,911</b>	<b>675,911</b>	<b>na</b>	<b>587,962</b>	<b>na</b>	<b>587,962</b>	<b>30</b>	<b>-736,568</b>	<b>-52</b>	<b>-824,517</b>	<b>-58</b>	<b>-87,949</b>	<b>-13</b>	<b>12</b>
<b>Tasmania</b>																
Tasmanian	2,261,880	811,000	787,000	787,000	607,000	563,000	376,000	376,000	36	-24,000	-3	-435,000	-54	-411,000	-52	17
<b>Victoria</b>																
East Gippsland	1,014,040	344,696	340,000	340,000	302,500	250,000	226,000	226,000	34	-4,696	-1	-118,696	-34	-114,000	-34	22
Central Highlands	584,676	207,700	190,000	190,000	184,000	184,000	115,000	115,000	36	-17,700	-9	-92,700	-45	-75,000	-39	20
North East	1,077,910	120,050	100,000	100,000	75,500	75,000	38,000	38,000	11	-20,050	-17	-82,050	-68	-62,000	-62	4
Gippsland	1,246,320	253,810	230,000	230,000	230,000	230,000	72,000	72,000	20	-23,810	-9	-181,810	-72	-158,000	-69	6
West Victoria	721,223	174,600	150,000	150,000	88,000	51,000	na	51,000	24	-24,600	-14	-123,600	-71	-99,000	-66	7
<b>Total Victorian RFA regions</b>	<b>4,644,168</b>	<b>1,100,856</b>	<b>1,010,000</b>	<b>1,010,000</b>	<b>880,000</b>	<b>790,000</b>	<b>462,000</b>	<b>502,000</b>	<b>24</b>	<b>-90,856</b>	<b>-8</b>	<b>-598,856</b>	<b>-54</b>	<b>-508,000</b>	<b>-50</b>	<b>11</b>
<b>Western Australia</b>																
South-West Forest Region of WA	1,932,279	1,157,000	1,095,692	904,000	848,140	848,140	848,880	848,880	60	-61,308	-5	-308,120	-27	-246,812	-23	44
<b>Total</b>																
<b>Total all RFA regions <sup>d</sup></b>	<b>13,576,988</b>	<b>4,481,335</b>	<b>3,568,603</b>	<b>3,376,911</b>	<b>na</b>	<b>2,789,102</b>	<b>na</b>	<b>2,314,842</b>	<b>33</b>	<b>-912,732</b>	<b>-20</b>	<b>-2,166,493</b>	<b>-48</b>	<b>-1,253,761</b>	<b>-35</b>	<b>17</b>

Source: Regional Forest Agreements and associated datasets derived from state and Australian government data.

NHA, net harvestable area; **na**, not available.

'Pre-RFA' refers to immediately prior to the signing of the relevant RFA. At RFA' refers to changes on signing of the relevant RFA. 'Post-RFA' refers to immediately after the date of signing of the relevant RFA.

<sup>a</sup> Figures for Victorian RFA regions in column BA are from 2019.

<sup>b</sup> NHA in most recent data for RFA regions in New South Wales is as at 2010–11, for RFA regions in Tasmania and Western Australia is as at 2015–16 and for RFA regions in Victoria is as at 2019.

<sup>c</sup> Column code D from Table A1.

<sup>d</sup> Area and proportion figures for the change in NHA using most recent data for all RFA regions (column codes BD through BI) use a combination of NHA at 2010–11 (column AZ) and NHA at 2015–16 (column BA). See footnotes <sup>a</sup> and <sup>b</sup>.

Totals may not tally due to rounding.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).



**Table A11 Average annual harvest and sustainable yield for multiple-use public forests in areas covered by RFAs, by state and five-yearly reporting periods between 1992 and 2016**

Period	Average annual sawlog harvest ('000 cubic metres)									
	NSW combined RFA regions		Tasmanian RFA region		Victorian combined RFA regions		South-West WA RFA region		Total all RFA regions	
	Actual harvest	Sustainable yield	Actual harvest	Sustainable yield	Actual harvest	Sustainable yield	Actual harvest	Sustainable yield	Actual harvest	Sustainable yield
1992-96	658	686	272	301	801	937	622	758	2,353	2,682
1996-2001	480	575	275	360	761	914	527	627	2,043	2,476
2001-06	430	457	334	350	580	625	225	300	1,569	1,732
2006-11	339	456	252	319	387	484	131	185	1,109	1,444
2011-16	311	359	121	210	307	450	139	188	878	1,207

Source: National Forest Inventory databases.

Data are for multiple-use public native forests as defined by the states. Figures for sustainable yield are supplemented with supply of products deemed to meet equivalent quality standards from public hardwood plantations for north-eastern New South Wales and Tasmania. Actual harvest data in these states do not include supplementation; quantities from public hardwood supplementation are reported in MIG and NFISC (2018).

Years are for financial years, i.e. the period 1992-96 includes 1992-93 to 1995-96 etc.

Reporting periods align with the reporting periods for reports in the *Australia's State of the Forests Report* series.

This table, together with other data in this report, is available in Microsoft Excel at [doi.org/10.25814/pczx-xk66](https://doi.org/10.25814/pczx-xk66).

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