Indicator 2.1e: The area of native forest harvested and the proportion of that effectively regenerated, and the area of plantation harvested and the proportion of that effectively re-established (2024)



This indicator is used to assess the success of the re-establishment of forests after harvesting. Re-establishment is critical to the maintenance of the productive capacity of the forest.

Context and definition

The term 'forest regeneration' typically refers to new trees that establish in a native forest after harvesting, fire, or other disturbance in which some or all trees from the forest overstorey are removed. Regeneration can occur naturally or through human management intervention (e.g. burning, mechanical disturbance, sowing seed, or planting seedlings). Re-establishment generally refers to the re-planting of seedlings after harvesting and site preparation in commercial plantations.

Regeneration: A native forest growth stage that includes juvenile and sapling stages, where trees are very small and crowns exhibit apical dominance; a native forest growth stage generally taken as less than 20 years since disturbance.

Key points

- Over the period 2016-17 to 2020-21, the annual average proportion of harvested multiple-use public native forest effectively regenerated, as assessed against stocking standards was 81% in New South Wales, 100% in Queensland, and 97% in Tasmania. For Victoria, areas treated for regeneration were formally assessed as meeting regeneration standards. For Western Australia, the level of regeneration was assessed as adequate.
- Lower levels of regeneration success typically occur in years affected by drought, bushfire, low availability of seed, or an inability to carry out regeneration treatments. Higher levels of regeneration success typically occur when environmental conditions are more favourable.
- Establishment of new commercial plantations in Australia has declined from 86.6 thousand hectares in 2006-07 to 4.5 thousand hectares in 2022-23.

What is native forest regeneration?

Forest regeneration in a forestry operation scenario typically refers to new trees that establish in a native forest after harvesting. Regeneration can occur naturally or through management intervention such as burning, mechanical disturbance, sowing seed, or planting seedlings. Regeneration is a targeted outcome of wood harvesting under many of the silvicultural (forest management) systems used in native forestry (see Indicator 2.1a for descriptions of silvicultural systems). Ensuring effective regeneration of native forests after wood harvesting is a fundamental requirement of sustainable forest management. Regeneration success determines the long-term productivity, growth, dynamics and composition of forest stands.

Codes of forest practices, silvicultural guidelines and other regulatory instruments require state agencies responsible for the management of multiple-use public native forests to quantitatively assess the effectiveness of

regeneration after harvesting to determine if it meets required thresholds. Some states also apply codes of practice and regulations to private native forests.

The states have established standards for the effective regeneration of multiple-use public native forests. Where the specified regeneration and stocking standards (number of trees per hectare) are not achieved after harvesting in multiple-use public native forests, remedial action (such as planting seedlings) is carried out by the relevant forest management agency.

Regeneration is usually assessed one to three years after harvesting to allow time for seedlings, coppice (regrowth from tree stems) or lignotuber sprouts (regrowth from tree roots) to establish and be detected. Further follow-up treatment to promote regeneration or supplementary planting is carried out if the regeneration standards are not met at the first assessment. Sites successfully regenerated in accordance with codes of forest practices, silvicultural manuals and other regulatory instruments can subsequently be impacted by environmental conditions such as bushfires, grazing and browsing by native and non-native animals, and invasive weeds.

Regional differences in forest type, climatic and biophysical conditions, and management objectives mean that each state has its own method of assessing the success of regeneration. Assessment techniques are similar across jurisdictions for even-aged forests, but are more variable for multi-aged forests (where there is a large variation of tree age, size and height within the same forest stand).

Silviculture type, retention of seed trees, prescribed fire and mechanical site disturbance are variously employed to encourage regeneration in multiple-use public native forests. These methods are sometimes combined with the aerial sowing of seed. Some silvicultural systems require adequate on-site regeneration to be present before wood harvesting takes place (such as shelterwood and native cypress pine silvicultural systems). The promotion of a subsequent regeneration event is not a priority when a young regrowth stand is thinned or during a light selective harvesting operation targeting specific products.

Reported effective regeneration of harvested native forests

Over the period 2016-17 to 2020-21, the annual average proportion of harvested multiple-use public native forest that was effectively regenerated, as assessed against stocking standards, was 81% in New South Wales, 100% in Queensland, and 97% in Tasmania (Table 2.1e-1 to 2.1e-3). For Victoria, areas treated for regeneration were formally assessed as meeting regeneration standards. For Western Australia, the level of regeneration was assessed as adequate.

New South Wales

In New South Wales, effective regeneration was on average 81% in multiple-use public native forests for the period 2001-02 to 2020-21 (Table 2.1e-1). In individual years, regeneration was generally above 70%, and in the three years where regeneration rates were below 70%, the impact of drought was a significant factor. Bushfires also affected regeneration on harvested areas in some of these forests.

A sampling process is undertaken in New South Wales to assess the effectiveness of regeneration where regeneration is a targeted outcome of the wood harvesting operation, or where a site-based assessment determines a risk of regeneration failure. A regeneration threshold of 65% of assessed plots in any given harvested area is considered adequate stocking. Additional silvicultural treatment is applied to remediate areas where the threshold is not met, however, these areas are not reported in Table 2.1e-1.

		Net area harvested	Net area effectively		
	Total area	where regeneration	regenerated where	Proportion	
	planned for	was a targeted	regeneration was a	effectively	
Year	harvest	outcome	targeted outcome	regenerated (%)	
2001-02	50,351	n.r.	n.r.	68	
2002-03	49,062	n.r.	n.r.	87	
2003-04	45,337	n.r.	n.r.	86	
2004-05	42,523	3,990	3,312	83	
2005-06	43,233	5,045	3,733	74	
2006-07	44,806	3,709	2,337	63	
2007-08	52,960	5,418	5,093	94	
2008-09	27,952	3,616	2,929	81	
2009-10	38,499	3,845	3,653	95	
2010-11	27,484	5,382	4,951	92	
2011-12	27,444	7,837	6,034	77	
2012-13	31,221	5,812	4,010	69	
2013-14	23,807	6,365	4,965	78	
2014-15	22,235	6,975	5,650	81	
2015-16	17,878	4,106	3,736	91	
2016-17	24,308	2,943	2,178	74	
2017-18	24,048	4,606	3,316	72	
2018-19	17,075	3,546	3,156	89	
2019-20	17,036	3,488	3,139	90	
2020-21	11,528	1,013	n.r. ^d	n.r. ^d	
Annual average by five-year period					
2001-02 to 2005-06	46,101	n.r.	n.r.	80	
2006-07 to 2010-11	38,340	4,394	3,792	85	
2011-12 to 2015-16	24,517	6,219	4,879	79	
2016-17 to 2020-21	18,799	3,119	2,947	81	

Table 2.1e-1: Area of harvested multiple-use public native forest effectively regenerated, New South Wales,2001-02 to 2020-21

n.r., not reported.

^a Values for 2016-17 to 2020-21 are net area harvested.

^b Regeneration targets are not required when thinning existing growing stock or releasing advanced growth.

^c In harvested areas where regeneration is a targeted outcome, Forestry Corporation of New South Wales uses a sampling process to assess regeneration success. A similar sampling process is also used to monitor regeneration where an initial site-based assessment determines there is a risk of regeneration failing.

^d Regeneration assessments for areas harvested in 2020-21 were not completed at the time of publishing.

Source: Forestry Corporation of New South Wales.

<u>Click here for a Microsoft Excel workbook of the data for Table 2.1e-1</u>.

Queensland

Effective regeneration was reported as being 100% for the period 2000-01 to 2020-21 in Queensland. Effective regeneration is monitored as part of the post-harvest audit process carried out by the Queensland Parks and Wildlife Service.

In Queensland, single-tree selection silvicultural systems that suit the ecology of the eucalypt and native cypress pine forests have been applied since 2000. These systems retain a mix of mature trees and regeneration of

various ages. There is generally an abundance of regeneration in Queensland native forests following harvesting (QPWS 2020). In these forest types, regeneration is generally established continually and naturally from seed, coppice or lignotubers in the gaps produced during harvesting operations.

Tasmania

Between 2016-17 to 2020-21, an annual average of 97% of harvested multiple-use public native forest met the required regeneration standard (Table 2.1e-2). Since 1998-99, between 87% and 100% of multiple-use public native forest harvested and regenerated met the required regeneration standard.

In Tasmania, the Tasmanian Forest Practices Code 2015 and subsequent Tasmanian Forest Practices Code 2020 (FPA 2015; FPA 2020) require that post-harvest regeneration sowing and planting mixtures in native forests must approximate the natural composition of canopy tree species prior to wood harvesting. The required stocking standard (number of trees per hectare) is based on broad forest types and the silvicultural system under which the coupe was harvested. Where surveys show inadequate stocking rates, additional regeneration treatment is required.

Table 2.1e-2: Area of regenerated multiple-use public native forest meeting stocking standards, Tasmania,1998-99 to 2020-21

	Regeneration year					
	Eucalypt		Total area	Total area	Proportion of	
	clearfelling	Rainforest/	harvested and	that achieved	total area	
_	and partial	blackwood	regenerated	standard	that achieved	
Reporting year	logging	swamp	(hectares)	(hectares)	standard (%)	
1998-99	1995-96	1993-94	4,006	3,815	95	
1999-2000	1996-97	1994-95	5,466	5,184	95	
2000-01	1997-98	1995-96	4,145	4,011	97	
2001-02	1998-99	1996-97	4,808	4,568	95	
2002-03	1999-2000	1997-98	4,148	3,837	93	
2003-04	2000-01	1998-99	5,526	5,141	93	
2004-05	2001-02	1999-2000	6,569	6,526	99	
2005-06	2002-03	2000-01	7,226	6,942	96	
2006-07	2003-04	2001-02	9,445	9,244	98	
2007-08	2004-05	2002-03	10,207	10,010	98	
2008-09	2005-06	2003-04	7,522	7,002	93	
2009-10	2006-07	2004-05	6,882	6,220	90	
2010-11	2007-08	2005-06	7,820	6,888	88	
2011-12	2008-09	2006-07	9,377	9,002	96	
2012-13	2009-10	2007-08	9,190	8,639	94	
2013-14	2010-11	2008-09	7,414	7,192	97	
2014-15	2011-12	2009-10	4,580	3,985	87	
2015-16	2012-13	2010-11	2,994	2,994	100	
2016-17	2013-14	2011-12	4,368	4,193	96	
2017-18	2014-15	2012-13	4,432	4,166	94	
2018-19	2015-16	2013-14	4,145	3,938	95	
2019-20	2016-17	2014-15	5,792	5,735	99	
2020-21	2017-18	2015-16	3,627	3,591	99	
Annual average by five-year period						
1996-97 to 2000-01	n.a.	n.a.	4,539	4,337	96	
2001-02 to 2005-06	n.a.	n.a.	5,655	5,403	95	
2006-07 to 2010-11	n.a.	n.a.	8,375	7,873	93	
2011-12 to 2015-16	n.a.	n.a.	6,711	6,362	95	
2016-17 to 2020-21	n.a.	n.a.	4,473	4,325	97	

n.a., not applicable.

Source: FPA (2017, 2022).

Click here for a Microsoft Excel workbook of the data for Table 2.1e-2.

Victoria

The majority of areas of multiple-use public native forest formally treated for regeneration in Victoria were assessed as meeting regeneration standards over the period 2016-17 to 2020-21. Records for successful regeneration (presented in Table 2.1e-3) are not linked to the year in which harvesting took place. Rather, the area effectively regenerated is reported in the year in which it was assessed as meeting regeneration standards. This is because regeneration treatments (such as burning and seed sowing) may be delayed to subsequent years after harvesting due to unfavourable environmental conditions or resource limitations, and regeneration

assessments may not occur for several years after the regeneration treatment, while the regeneration is growing to an assessable level. Thus, the area reported as meeting regeneration standards in a particular reporting year, or period, can exceed the area reported as having been treated for regeneration.

Lower levels of regeneration success occurred in years affected by drought, bushfire, low availability of seed, or an inability to carry out regeneration treatments. Higher levels of regeneration success occurred in years with favourable environmental conditions, or where regeneration from previous years had reached a standard that could be assessed as meeting the regeneration standard. A harvested coupe that does not meet the minimum regeneration standards after the initial assessment is further treated, however these areas become increasingly difficult to regenerate after the first attempt due to understorey species competition (for example, *Acacia* spp.) and associated vegetation management difficulties.

Prior to the disbanding of Victoria's commercial harvesting agency, VicForests, on 30 June 2024, harvested coupes were regenerated by VicForests. When harvested coupes met regeneration thresholds, they were handed back to the land management agency, the Department of Energy, Environment and Climate Action (formerly the Department of Environment, Land, Water and Planning) for ongoing management. The restoration and regeneration of forests following both natural and human disturbance is now undertaken by Victoria's Department of Energy, Environment and Climate Action (DEECA 2024).

	Area (hectares)			
	Total harvested area treated Total area effect			
Reporting year	for regeneration	regenerated		
1993-94	9,328	6,987		
1994-95	6,742	5,902		
1995-96	8,961	8,046		
1996-97	6,650	5,050		
1997-98	5,590	5,140		
1998-99	6,730	5,820		
1999-2000	7,714	6,939		
2000-01	8,119	6,988		
2001-02	6,964	6,129		
2002-03	5,810	4,984		
2003-04	5,817	4,968		
2004-05	4,556	2,655		
2005-06	4,749	2,112		
2006-07	4,545	4,062		
2007-08	4,997	3,367		
2008-09	4,466	3,050		
2009-10	4,263	5,311		
2010-11	4,804	4,137		
2011-12	4,298	4,055		
2012-13	3,327	3,397		
2013-14	2,981	2,242		
2014-15	4,331	3,459		
2015-16	4,820	5,194		
2016-17	2,673	2,722		
2017-18	3,045	2,638		
2018-19	2,563	3,575		
2019-20	2,101	2,291		
2020-21	2,888	2,314		
Annual average by reporting period				
1993-94 to 1995-96	8,344	6,978		
1996-97 to 2000-01	6,961	5,987		
2001-02 to 2005-06	5,579	4,170		
2006-07 to 2010-11	4,615	3,985		
2011-12 to 2015-16	3,951	3,669		
2016-17 to 2020-21	2,654	2,708		

Table 2.1e-3: Area of multiple-use public native forest treated for regeneration and area effectivelyregenerated, Victoria, 1993-94 to 2020-21

Records for effective regeneration are reported against the year in which they were assessed as meeting regeneration standards rather than the year in which regeneration actions took place. Thus, the area reported as effectively regenerated can be higher than the total area treated for regeneration in that year, and therefore should not be used for year-by-year comparisons.

Source: *Australia's State of the Forests Report 2018*; Victorian Department of Economic Development, Jobs, Transport and Resources; VicForests.

Click here for a Microsoft Excel workbook of the data for Table 2.1e-3.

Western Australia

Between 2001-02 and 2010-11, Western Australia reported 100% or near 100% effective regeneration of all harvested areas (Table 2.1e-4). Results from regeneration assessments since 2010-11 are not available, however, the *End-of-term review of performance of the Forest Management Plan 2014-2023* (CPC 2022) reports that adequate regeneration was achieved in sampled areas. The *Forest Management Plan 2014-2023* (CCWA 2013) and previous forest management plans (CALM 1994; CCWA 2004), which cover the main wood production areas in south-west Western Australia, required that regeneration success and effective stocking rates be monitored in publicly owned native forests.

Regeneration assessment timing and establishment stocking density standards differ between karri (*Eucalyptus diversicolor*) and jarrah (*E. marginata*) due to their biological differences, with assessment and monitoring of outcomes varying between six months to three years after completion of harvesting. During the period 2014 to 2020, all karri regeneration treatments met stocking standards within 18 months of harvest, while jarrah regeneration was effective for all areas where treatment was completed within 30 months of harvest (CPC 2022).

Regeneration methods differ between karri and jarrah forest types. In karri dominated forest, areas are replanted to a minimum stocking density after harvesting and regeneration burn. In jarrah forest types, satisfactory regeneration can be achieved with a regeneration burn which releases and promotes the growth of existing lignotuberous stock (regrowth from remnant tree roots) or through seed-fall from retained overstorey trees and subsequent seedling establishment.

Although large-scale commercial wood harvesting ended in the multiple-use public native forests of south-west Western Australia from 01 January 2024, the *Forest Management Plan 2024-2033* recognises that regeneration treatments in a selection of coupes harvested up until that date will need to continue until satisfactory regeneration is achieved (CPC 2023).

	Total area harvested	Proportion of harvested area effectively			
Reporting year	(hectares)ª	regenerated (%) ^b			
2001-02	16,630	100.00			
2002-03	13,950	100.00			
2003-04	9,725	100.00			
2004-05	9,610	99.94			
2005-06	7,440	99.94			
2006-07	9,670	99.98			
2007-08	8,820	99.90			
2008-09	7,640	100.00			
2009-10	10,660	99.65			
2010-11	6,140	n.r. ^c			
2011-12	7,490	n.r. ^c			
2012-13	7,780	n.r. ^c			
2013-14	6,730	n.r. ^c			
2014-15	5,480	n.r. ^c			
2015-16	6,360	n.r. ^c			
2016-17	7,810	n.r. ^c			
2017-18	6,141	n.r. ^c			
2018-19	5,877	n.r. ^c			
2019-20	5,846	n.r. ^c			
2020-21	7,598	n.r. ^c			
Annual average by five-year period					
2001-02 to 2005-06	11,471	100.0			
2006-07 to 2010-11	8,586	99.9			
2011-12 to 2015-16	6,768	n.r. ^c			
2016-17 to 2020-21	6,654	n.r. ^c			

Table 2.1e-4: Area of multiple-use public native forest effectively regenerated, Western Australia, 2001-02 to2020-21

n.r., not reported in this format.

^a Total forest area harvested is the gross harvested area and includes jarrah forest harvested to a range of silvicultural objectives, but excludes areas cleared for mining.

^b Proportion of harvested area effectively regenerated, based on harvested areas where the silvicultural objectives of the silvicultural systems require regeneration establishment in the harvested area and follow-up assessment for effectiveness, and calculated as the weighted average of regeneration success reported for karri (*Eucalyptus diversicolor*) and jarrah (*E. marginata*) regeneration for that year. Regeneration success can relate to areas harvested 18-30 months previously.

^c Western Australia reported that, across these years, adequate regeneration was achieved in all areas of harvested karri, and in most areas of harvested jarrah within 30 months.

Source: CCWA (2012); CPC (2022); Western Australian Department of Biodiversity, Conservation and Attractions. <u>Click here for a Microsoft Excel workbook of the data for Table 2.1e-4</u>.

Commercial plantation establishment and re-establishment

The size of Australia's commercial plantation estate depends on the establishment of new plantations on land not previously used for plantation forestry and the extent to which existing plantations are re-established after final harvest. The decision to re-establish plantations depends on factors such as site-suitability, previous yield, grower intent, market demand and competition with alternative land-uses.

Establishment of new commercial plantations in Australia has declined from 86.6 thousand hectares in 2006-07 to 4.5 thousand hectares in 2022-23 (Figure 2.1e-1). The average annual rate of commercial plantation establishment for the period 2016-17 to 2022-23 was 2.3 thousand hectares, which is a slight increase from the average of 2 thousand hectares per year between 2011-12 to 2015-16 (ABARES 2024). There was a modest increase in 2021-22 and 2022-23, coinciding with the release of the 2017 Plantation Forestry Method, which provided the rules for crediting carbon sequestered in plantations under the Australian Carban Credit Unit (ACCU) Scheme. Under the ACCU Scheme plantation growers can receive income for sequestering carbon during the plantation rotation in certain situations. As of 01 July 2023, there were 72 plantation projects of varying scale registered under the ACCU Scheme Forestry Method across Australia (CER 2024).





Source: ABARES (2024). Click here for a Microsoft Excel workbook of the data for Figure 2.1e-1.

In 2020-21, 48 thousand hectares of commercial plantation forest was established or re-established in Australia (Table 2.1e-5). The average rate of establishment/re-establishment between 2016-17 and 2020-21 was 55 thousand hectares. During this time the total plantation estate area decreased by 11% (see <u>Indicator 2.1b</u> for area and age class of plantations).

Victoria had the largest contribution of commercial plantation establishment/re-establishment with an annual average of 15 thousand hectares (27%), followed by Western Australia and the Northern Territory together with 10 thousand hectares (18%) and New South Wales and the Australian Capital Territory together with 9 thousand hectares (17%) (Table 2.1e-5).

Total commercial softwood plantation establishment/re-establishment in Australia averaged 32 thousand hectares per year between 2016-17 and 2020-21 (Table 2.1e-5). New South Wales and the Australian Capital Territory together accounted for 9 thousand hectares (28%) of Australia's average yearly established/re-established softwood plantation area, and Queensland and Victoria each accounted for 7 thousand hectares (22% each).

Total commercial hardwood plantation establishment/re-establishment in Australia averaged 22 thousand hectares per year between 2016-17 and 2020-21 (Table 2.1e-5). Tasmania, Victoria, and Western Australia with the Northern Territory each accounted for 7 thousand hectares (94% combined) of Australia's average yearly established/re-established hardwood plantation area. Together, New South Wales with the Australian Capital Territory, Queensland, and South Australia combined accounted for only 1 thousand hectares (6%) of the average annual hardwood plantation establishment/re-establishment in Australia.

Nationally, 95% of established and re-established plantations met the stocking standard for the period 2016-17 to 2020-21, ranging from 92% in Western Australia and the Northern Territory together to 100% in Queensland (Table 2.1e-5). Most public and private plantation growers and managers have internal management systems to assess plantation stocking rates after establishment/re-establishment. Annual stocking standards between 2005-06 and 2015-16 are available in previous reports in the Australia's State of the Forests Report series.

Table 2.1e-5: Hardwood and softwood plantation establishment and re-establishment, and proportion meetingstocking standards, 2016-17 to 2020-21

lurisdiction	Establishment/ Re-establishment	2016-17	2017-18	2018-19	2019-20	2020-21	Annual
NSW and ACT ^a	Hardwood (ha)	159	421	486	12	800	376
	Softwood (ha)	10,037	8,156	7,210	9,028	10,743	9,035
	Total area (ha)	10,196	8,577	7,696	9,040	11,543	9,410
	Stocking standard (%)	94	93	89	96	97	94
Qld	Hardwood (ha)	212	0	0	0	0	42
	Softwood (ha)	7,010	10,053	6,932	7,236	5,463	7,339
	Total area (ha)	7,222	10,053	6,932	7,236	5,463	7,381
	Stocking standard (%)	100	100	100	100	100	100
SA	Hardwood (ha)	74	290	905	1,365	1,817	890
	Softwood (ha)	4,749	5,177	4,569	3,931	1,361	3,957
	Total area (ha)	4,823	5,467	5,474	5,296	3,178	4,848
	Stocking standard (%)	n.d.	100	99	99	100	100
Tas.	Hardwood (ha)	7,462	8,305	7,809	6,225	3,601	6,680
	Softwood (ha)	2,300	1,665	2,456	3,122	1,610	2,231
	Total area (ha)	9,762	9,970	10,265	9,347	5,211	8,911
	Stocking standard (%)	n.d.	98	99	99	100	99
Vic.	Hardwood (ha)	3,549	4,357	8,357	9,881	10,329	7,295
	Softwood (ha)	8,466	7,939	7,888	9,041	3,034	7,274
	Total area (ha)	12,015	12,296	16,245	18,922	13,363	14,568
	Stocking standard (%)	n.d.	92	96	96	94	95
WA and NT ^b	Hardwood (ha)	7,253	7,310	6,141	6,519	8,024	7,049
	Softwood (ha)	2,561	3,394	2,642	3,203	1,087	2,577
	Total area (ha)	9,814	10,704	8,783	9,722	9,111	9,627
	Stocking standard (%)	91	97	94	93	84	92
Australia	Hardwood (ha)	18,709	20,683	23,698	24,002	24,571	22,333
	Softwood (ha)	35,123	36,384	31,697	35,561	23,298	32,413
	Total area (ha)	53,832	57,067	55,395	59,563	47,869	54,745
	Stocking standard (%)	95	97	94	96	94	95

ha, hectares; n.d., data not supplied; stocking, number of trees per hectare.

^a Combined data for New South Wales and the Australian Capital Territory.

^b Combined data for Western Australia and the Northern Territory.

Data are establishment/re-establishment data as reported by major growers and managers, representing around 70% of the total plantation estate.

Proportions calculated as weighted averages.

There are no public plantations in Queensland or the Northern Territory. Source: ABARES.

Click here for a Microsoft Excel workbook of the data for Table 2.1e-5.

Land use change following plantation harvest

Tasmania is the only jurisdiction that reports trends in land-use following harvest of commercial plantation forests. During the five-year period 2016-17 to 2020-21, the average annual plantation area harvested in Tasmania was 15 thousand hectares (Table 2.1e-6). By proportion, an average of 21% of the total plantation area harvested between 2011-12 to 2020-21 was planned for a change in land use, compared to an average of 4% of the plantation area harvested between 1999-2000 to 2010-11. The elevated rate of conversion to non-plantation use commenced in 2013-14 and was driven by increasing agricultural returns, the expansion of irrigation schemes and the collapse of forestry Managed Investment Schemes (FPA 2022). Land use options comprise plantation re-establishment, conversion to non-forest land use, and re-establishment of native forest. In any given year plantation owners/managers may choose to delay re-establishment operations, or convert more or less area to an alternative land use.

Table 2.1e-6: Planned subsequent land use of harvested plantation forest (public and private), Tasmania,1999-2000 to 2020-21

		Proportion					
		planned for					
	Total		non-				
	plantation	Plantation	Conversion to	Native forest	plantation		
Reporting year	harvested	re-establishment	non-forest use ^a	re-establishment [®]	land-use (%)		
1999-2000	3,650	3,600	50	0	1		
2000-01	5,320	5,230	90	0	2		
2001-02	5,710	5,350	360	0	6		
2002-03	7,870	7,740	130	0	2		
2003-04	8,670	8,250	420	0	5		
2004-05	6,770	6,550	220	0	3		
2005-06	8,100	7,590	510	0	6		
2006-07	9,710	9,450	260	0	3		
2007-08	10,370	9,760	610	0	6		
2008-09	7,870	7,360	400	110	6		
2009-10	8,460	7,940	280	240	6		
2010-11	6,830	6,370	340	120	7		
2011-12	4,203	3,691	350	162	12		
2012-13	4,401	3,827	550	24	13		
2013-14	9,301	7,515	1,496	290	19		
2014-15	9,201	6,847	2,313	41	26		
2015-16	15,337	11,879	3,394	64	23		
2016-17	15,581	12,289	2,982	310	21		
2017-18	16,274	13,353	2,856	65	18		
2018-19	16,355	13,309	2,949	97	19		
2019-20	16,026	12,164	3,536	326	24		
2020-21	11,358	8,121	3,192	45	28		
Annual average by reporting period							
1999-2000 to	4 485	<u> 4</u> 415	70	0	2		
2000-01	-,-05	7,715	70	0	2		
2001-02 to 2005-	7.424	7.096	328	0	4		
06	,	,					
2006-07 to 2010-	8,648	8,176	378	94	5		
11 2011-12 to 2015-							
16	8,489	6,752	1,621	116	20		
2016-17 to 2020-			-				
21	15,119	11,847	3,103	169	22		

^a Conversion of harvested plantation forest to non-forest land-use primarily applies to private plantations. It is minor in public plantations where it is restricted to infrastructure requirements (roads, powerlines and dams); such areas are not reported.

^b Reflects the reforestation of streamside reserves with native species in plantations established prior to the introduction of the Forest Practices Code in 1987.

Area values in Table 2.1e-5 do not directly correlate with this table because Table 2.1e-5 reports actual areas established/re-established, whereas this table reports on harvested plantation areas that are planned for re-establishment.

Source: FPA (2017); FPA (2022).

Click here for a Microsoft Excel workbook of the data for Table 2.1e-6.

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More information

Learn more about Criterion 2 of Australia's State of the Forests Report.

Web <u>agriculture.gov.au/abares/forestsaustralia/sofr/</u>

Download a Microsoft Excel workbook of the data presented in Indicator 2.1e.

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Acknowledgement of Country

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

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