

## Indicator 6.5a: Direct and indirect employment in the forest sector (2024)

This indicator measures the level of direct and indirect employment in the forest sector. Employment is an important measure of the contribution of forests to viable communities and the national economy.



### Definitions

**Direct employment:** The number of jobs in public and private agencies and firms relating directly to the process of producing goods or providing a service.

**Indirect employment:** The number of jobs in secondary economic activity resulting from a primary economic activity, such as in provision of materials, supplies, goods and services to support the primary activity, or generated or supported in retail and service sectors by the spending of salaries and wages of individuals and families involved in the primary economic activity.

### Explanation of data

The best available national data on forest sector employment are derived from the Australian Bureau of Statistics (ABS) *Census of Population and Housing 2021*, and are presented for four subsectors:

- *Forestry and logging* – includes businesses that grow and harvest timber in native and plantation forests. It also includes businesses that grow and harvest some non-wood forest products
- *Forestry support services* – includes businesses that provide silvicultural support services to forestry, such as planting, pruning and thinning trees, forest reforestation, forest plantation conservation or maintenance; and businesses that operate forestry planting stock nurseries
- *Wood product manufacturing* – includes businesses that manufacture rough-sawn timber and boards, woodchips, engineered wood products, and that re-saw or dress timber, timber boards and mouldings. This is the largest subsector.
- *Pulp, paper and converted paper product manufacturing* – includes businesses that manufacture wood pulp, manufacture pulp from used paper, paper or paperboard, and manufacture paperboard containers and other paper-based products.

Other types of employment, such as in forest-based tourism, or management of forested national parks and reserves, and indirect employment, are not captured here.

Employment data are for all persons 15 years of age and over who, during the reference period:

- *worked for at least one hour* a week for pay, profit, commission, or payment in kind, or
- *worked for one hour or more* without pay in a family business or on a farm, or
- were employees who had a job but *were not at work*.

The three types of employment status are:

- *full-time* – persons who usually worked 35 hours or more in a week
- *part-time* – persons who usually worked less than 35 hours in a week
- *away from work* – persons who were employed but away from work and for whom hours worked were not reported.

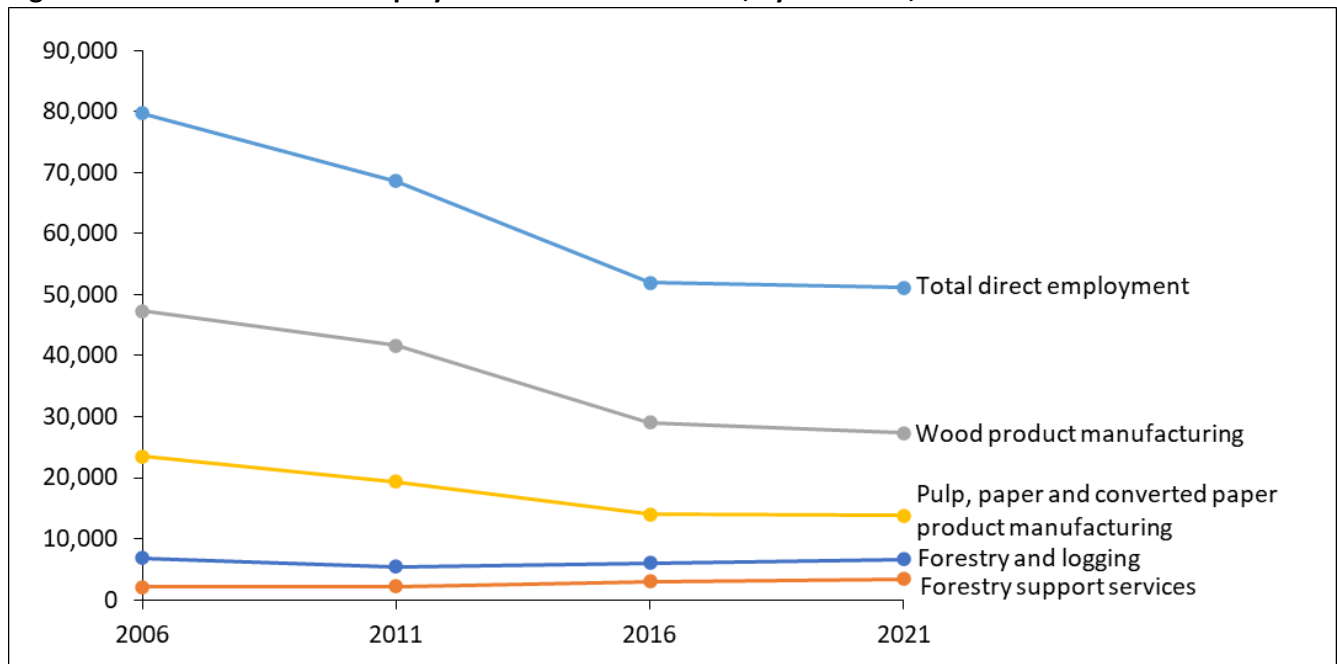
Forest sector employment data for forest-dependent communities and Indigenous forest-dependent communities are presented in [Indicator 6.5c](#) and [Indicator 6.5d](#), respectively.

## Direct employment in the forest sector

Total direct employment in the forest sector:

- decreased slightly (1.7%) between 2016 and 2021, from 51,983 persons to 51,120 persons (Figure 6.5a-1), and
- decreased as a proportion of total national employment, from 0.49% in 2016 to 0.42% in 2021.

**Figure 6.5a-1: Total national employment in the forest sector, by subsector, 2006 to 2021**



Total employment may be different from the sum of the individual employment categories because the ABS randomly adjusts some small values published in the *Census of Population and Housing* to avoid release of confidential data.

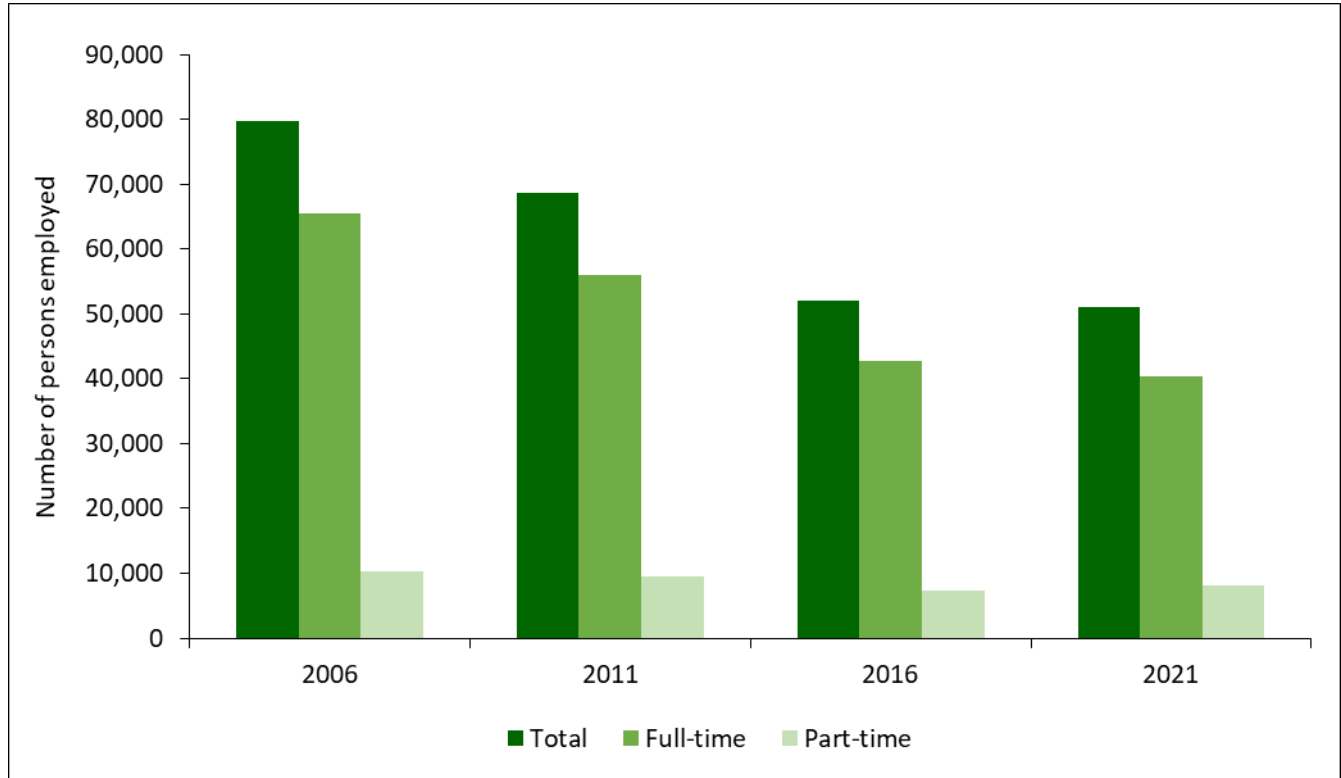
Source: ABS (2021).

[Click here for a Microsoft Excel workbook of the data for Figure 6.5a-1.](#)

In the forest sector between 2016 and 2021 (Figure 6.5a-2):

- full-time employment decreased by 6%, from 42,733 persons to 40,294 persons
- part-time employment increased by 12%, from 7,301 persons to 8,187 persons
- the balance of employees (2,639 persons) were listed as away from work.

**Figure 6.5a-2: National employment in the forest sector, by employment status, 2006 to 2021**



Total employment is higher than the sum of full-time and part-time employment because total employment also includes a relatively small number of persons employed but away from work (and who did not state their number of hours worked).

Source: ABS (2021).

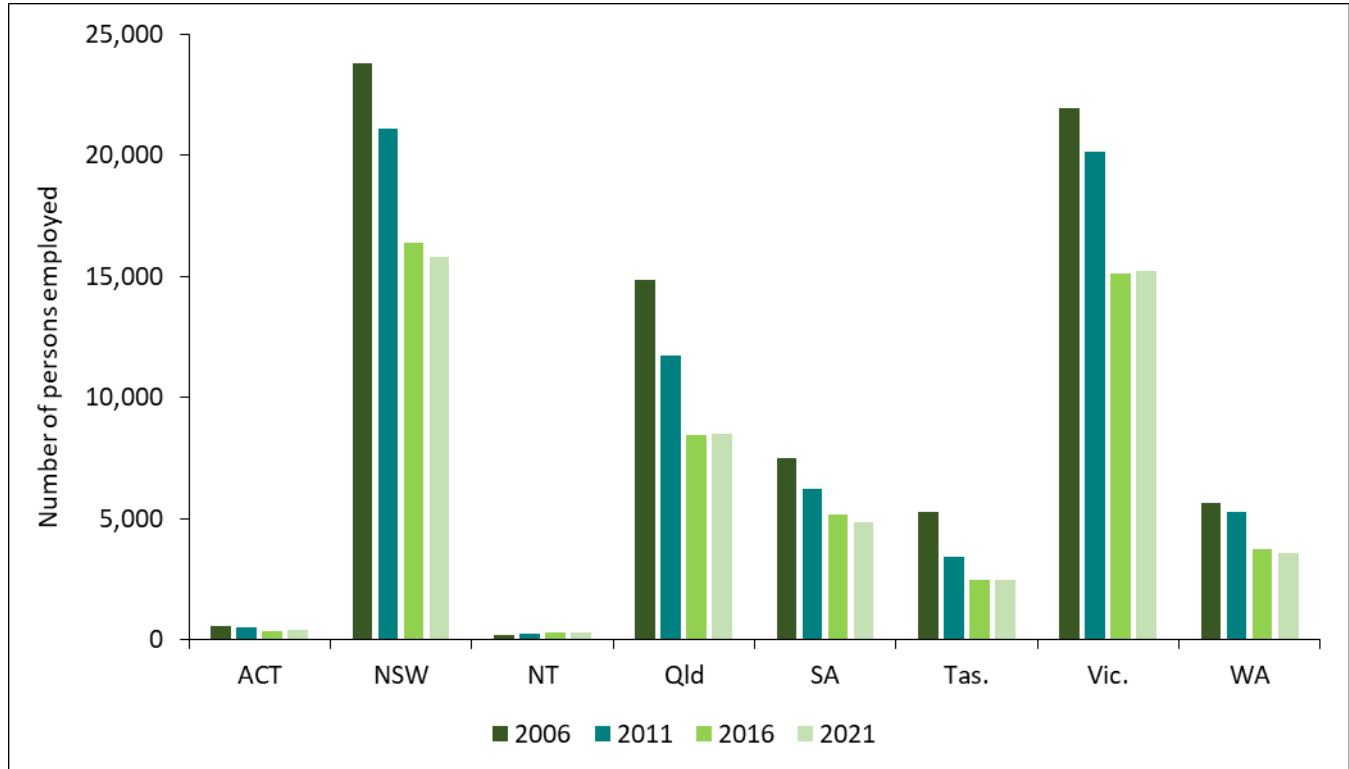
[Click here for a Microsoft Excel workbook of the data for Figure 6.5a-2.](#)

The number of persons directly employed in the forest sector decreased in the following states between 2016 and 2021 (Figure 6.5a-3):

- New South Wales (by 596 persons, down 4%)
- South Australia (by 350 persons, down 7%)
- Western Australia (by 186 persons, down 5%).

Direct forestry employment remained steady in the Australian Capital Territory, the Northern Territory, Queensland, Tasmania and Victoria.

**Figure 6.5a-3: Total employment in the forest sector, by state and territory, 2006 to 2021**



Total employment may be different from the sum of employment by state and territory because the ABS randomly adjusts some small values published in the *Census of Population and Housing* to avoid release of confidential data.

Source: ABS (2021).

[Click here for a Microsoft Excel workbook of the data for Figure 6.5a-3.](#)

### Direct employment by forest subsector

In the Forestry and logging subsector over the period 2016 to 2021:

- total direct employment increased from 6,027 to 6,651 persons (a 10% increase), and increased as a proportion of total forest sector employment from 12% to 13%
- the number of full-time employees increased by 441 (a 9% increase)
- the number of part-time employees increased by 165 (an 18% increase).

In the Forestry support services subsector over the period 2016 to 2021:

- total direct employment increased from 2,957 to 3,383 persons (a 14% increase), and increased as a proportion of total forest sector employment from 6% to 7%
- the number of full-time employees increased by 141 (an 8% increase)
- the number of part-time employees increased by 143 (a 14% increase).

In the Wood product manufacturing subsector over the period 2016 to 2021:

- total direct employment decreased from 29,035 to 27,327 persons (a 6% decrease), and decreased as a proportion of total forest sector employment from 56% to 53%
- the number of full-time employees decreased by 2,767 (an 11% decrease)
- the number of part-time employees increased by 600 (a 16% increase).

In the Pulp, paper and converted paper product manufacturing subsector over the period 2016 to 2021:

- total direct employment decreased from 13,962 to 13,762 persons (a 1% decrease), and remained at 27% of total forest sector employment

- the number of full-time employees decreased by 260 (a 2% decrease)
- the number of part-time employees remained constant.

For each forest subsector, the balance of employees not listed as full-time or part-time were away from work.

### Indirect employment in the forest sector

Limited data are available on indirect forest employment because of extensive cross-linkages with other sectors of the economy. Three state-based studies describing direct and indirect employment in the forest sector are provided in [Supporting information for Indicator 6.5a](#).

## Supporting information for Indicator 6.5a: Direct and indirect employment in the forest sector

### State-based employment studies

Three recent state-based studies of forest sector employment reported data on both direct and indirect employment. Indirect employment includes activities generated from direct employment, such as wholesale and retail trade; legal services; accounting; marketing and business services; motor vehicles; rail, pipeline and other transport services (parts, equipment, maintenance and repairs); electricity, gas and water supply; education; scientific research; technical and computer support; government administration; and media services. The 'multiplier' is the number of indirect jobs created by every direct job, and in the studies below the multiplier varies from 0.5 to 2.7, with a median value of 1.5. The data are presented as direct and indirect full-time equivalent jobs (FTEs), as some positions are part-time.

These studies are regionally specific rather than standardised regular publications, meaning the results cannot be compared across regions.

Forest and Wood Products Australia (FWPA 2022) estimated the economic contribution of the forestry industry in Western Australia for 2019-20, including direct and indirect employment for key forestry regions and resource types. Employment data were derived from industry surveys and ABARES [Australian forest and wood product statistics](#) datasets. This study found:

- the Western Australia forestry industry generated 1,960 direct FTEs and 2,697 indirect FTEs
- softwood plantations were the largest contributor to employment, generating 827 direct FTEs and 1,089 indirect FTEs
- hardwood plantations generated 606 direct FTEs and 1,121 indirect FTEs.

A study for the Green Triangle Forestry Industry Hub (ERC Economic and Financial Analysis 2022) measured the economic contribution of the South Australia forestry industry for 2019-20, and found:

- the South Australia forestry industry generated 6,442 direct FTEs and 12,118 indirect FTEs
- the largest subsector contributing to total employment was Other wood product manufacturing, generating 2,703 direct FTEs and 3,960 indirect FTEs
- Paper stationery and converted paper product manufacturing was the second largest contributor, with 1,640 direct FTEs and 4,405 indirect FTEs.

A study of the New South Wales hardwood sector prepared for the North East NSW Forestry Hub (EY 2023) found:

- the New South Wales hardwood industry generated 5,920 direct FTEs and 2,980 indirect FTEs
- most indirect jobs generated are in the agriculture, forestry and fishing sector, followed by the transport, postal and warehousing sector.

### References

ABARES (2023). *Australian plantation statistics 2023 update*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, August. CC BY 4.0. [doi.org/10.25814/hhk8-4x26](https://doi.org/10.25814/hhk8-4x26)

ABS (Australian Bureau of Statistics) (2021). *Census of Population and Housing*, Census TableBuilder, accessed 25 July 2023. Australian Bureau of Statistics, Canberra.

ERC Economic and Financial Analysis (2022). [Economic Contribution Study of the SA Forestry Industry](#). Report prepared for the Green Triangle Forestry Industry Hub in collaboration with the South Australian Forest Products Association.

EY (2023). [Economic Contribution Study of the NSW hardwood timber industry](#). Prepared by Ernst and Young for the North East NSW Forestry Hub.

FWPA (2022). [Economic contribution of the forestry industry to Western Australia](#). Prepared for Forest and Wood Products Australia by BDO EconSearch.

## More information

Learn more about [Criterion 6 of Australia's State of the Forest Report](#).

Web [agriculture.gov.au/abares/forestsaustralia/sofr/](http://agriculture.gov.au/abares/forestsaustralia/sofr/)

[Download a Microsoft Excel workbook of the data presented in Indicator 6.5a.](#)

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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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