



Food and Agriculture
Organization of the
United Nations

Global Forest Resources Assessment 2020

Report

Finland

Rome, 2020



FAO has been monitoring the world's forests at 5 to 10 year intervals since 1946. The Global Forest Resources Assessments (FRA) are now produced every five years in an attempt to provide a consistent approach to describing the world's forests and how they are changing. The FRA is a country-driven process and the assessments are based on reports prepared by officially nominated National Correspondents. If a report is not available, the FRA Secretariat prepares a desk study using earlier reports, existing information and/or remote sensing based analysis.

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Introduction

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Introductory text

The most important data source for FRA 2020 is the Finnish National Forest Inventory (NFI) conducted by the Natural Resources Institute Finland (Luke) (former Finnish

Forest Research Institute , Metla). Another significant information source is the official Finnish forestry statistics. It collects information from several sources, in addition to NFI , from other projects of Luke, Metsähallitus, Finnish Forest Industries, Finnish Ministry of Environment and from other research institutes.

The National Forest Inventory of Finland has produced large-area forest resource information since 1921. So far (2020), 12 inventory cycles have been completed (1:1921-1924, 2:1936-38, 3:1951-53, 4:1960-63, 5:1964-70, 6:1971-76, 7:1977-84, 8:1986-1994, 9:1996-2003, 10:2004-2008, 11:2009-2013, 12: 2014-2018). The 113th inventory cycle (NFI13) began in

2019 and the field work will be completed in 2023. For most the reporting years 2015 and 2020 we used NFI12 data from years 2014-2017 completed with the year 2013 data from NFI11.

The design of the most recent NFI's (10, 11, 12, 13) has been changed from the previous inventory so that each year one fifth of the plots of the entire plot grid was measured. The previous inventories were done by regions. The role of the NFI is to produce objective and up-to-date information on the forest resources, forest health conditions, forest biodiversity, forest carbon pools and their development for national and regional decision making. The number of field plots in the entire country in one inventory since 1964 has been about 85 000 on land and about 70 000 on forestry land. Field plots cover all land use classes and all forest owner categories. The plot density in the country is adapted to the variability of forests.

Further information on the NFI available on web-page: <https://www.luke.fi/en/natural-resources/forest/forest-resources-and-forest-planning/>

National Data and Reclassification

For each field plot, more than 100 variables are used to describe the land cover, land use, site and growing stock of the plot. These variables are used for classifying the land area in different domains, e.g. forest types. For estimating the volume and increment of growing stock the trees on each forest plot are measured following a strict measuring protocol.

The information collected in the National Forest Inventory is stored into a database. Inventory results are published by regions and for the entire country in the specific publications and via the Luke's statistical services (<https://stat.luke.fi/en/>).

National and international statistics are calculated for different purposes on the basis of

definitions and requirements. For the FRA 2020 reporting, there was no need for reclassification for 2000, 2005, and 2010 data for most tables due to the fact that FAO FRA land use Cclass definitions are applied in the field, parallel with national classifications. A reclassification of land use classes was applied to 1990 data in area and growing stock tables.

The Natural Resources Institute Finland (Luke)

Luke is a research institute with a mission to create wellbeing and a sustainable future from renewable natural resources. Through research Luke creates value and solutions for local and global challenges: climate-smart carbon cycle, adaptive and resilient bioeconomy, profitable and responsible primary production, and circular bioeconomy.

Skillful staff, interdisciplinary collaboration and modern research infrastructure form a strong backbone of Luke's work. Luke employs 1,300 people, half of which are researchers. The project portfolio includes over 700 research projects.

Following persons from Natural Resources Institute Finland (Luke) have been involved in the reporting:

National Correspondent Kari T. Korhonen, Mr. Martti Aarne, Mr. Antti Ihalainen, Ms. Elina Mäki-Simola, Mr. Jukka Torvelainen, Ms. Tarja Tuomainen, Mr. Esa Uotila, Mr. Esa Ylitalo

List of references

NFI12 results

<https://stat.luke.fi/en/forest-resources>

NFI11 results

Korhonen, K.T., Ihalainen, A., Ahola, A., Heikkinen, J., Henttonen, H.M., Hotanen, J., Nevalainen, S., Pitkänen, J., Strandström, M., Viiri, H. 2017. Suomen metsät 2009–2013 ja niiden kehitys 1921–2013. Natural Resources Institute Finland Research Papers 59/2017.

NFI10 results

Korhonen, K.T., Ihalainen, A., Viiri, H., Heikkinen, J., Henttonen, H., Hotanen, J-P., Mäkelä, H., Nevalainen, S., & Pitkänen, J. 20013. Suomen metsät 2004 – 2008 ja niiden kehitys 1921 – 2008. Metsätieteen Aikakauskirja 3B/2013.

NFI9 results

Tomppo, E., Heikkinen, J., Henttonen, H.M., Ihalainen, A., Katila, M., Mäkelä, H., Tuomainen, T. & Vainikainen, N. 2011. Designing and conducting a forest inventory - case: 9th National Forest Inventory of Finland. Managing Forest Ecosystems. Vol 21. Springer.

NFI8 results

Tomppo, E., Henttonen & Tuomainen, T. 2001b. Valtakunnan metsien 8. inventoinnin menetelmä ja tulokset metsäkeskuksittain Pohjois-Suomessa 1992-94 sekä tulokset Etelä-Suomessa 1986-92 ja koko maassa 1986-94. Metsätieteen aikakauskirja. 1B/2001: 99-248.

1 Forest extent, characteristics and changes

1a Extent of forest and other wooded land

National data

Data sources

| | | |
|------|---------------------|---------------------------|
| 1990 | References | |
| | Methods used | National Forest Inventory |
| | Additional comments | NFI8 |

| | | |
|------|---------------------|---------------------------|
| 2000 | References | |
| | Methods used | National Forest Inventory |
| | Additional comments | NFI9 |

| | | |
|------|---------------------|---------------------------|
| 2010 | References | |
| | Methods used | National Forest Inventory |
| | Additional comments | NFI11 2009-2013 |

| | | |
|------|---------------------|---|
| 2015 | References | |
| | Methods used | National Forest Inventory |
| | Additional comments | NFI11 2013, Åland and Northern Lapland + NFI12 2014-2017 (the year 2018 missing from data at the time of reporting) |

Classifications and definitions

| | | |
|------|-------------------|-------------|
| 1990 | National class | Definition |
| | Forest | Same as FRA |
| | Other wooded land | Same as FRA |
| | Other land | Same as FRA |

| | | |
|------|----------------|------------|
| 2000 | National class | Definition |
|------|----------------|------------|

FRA 2020 report, Finland

| | | |
|--|-------------------|-------------|
| | Forest | Same as FRA |
| | Other wooded land | Same as FRA |
| | Other land | Same as FRA |

| 2010 | National class | Definition |
|------|-------------------|-------------|
| | Forest | Same as FRA |
| | Other wooded land | Same as FRA |
| | Other land | Same as FRA |

| 2015 | National class | Definition |
|------|-------------------|-------------|
| | Forest | Same as FRA |
| | Other wooded land | Same as FRA |
| | Other land | Same as FRA |

Original data and reclassification

| 1990 | Classifications and definitions | | FRA classes | | |
|------|---------------------------------|----------------|-------------|-------------------|------------|
| | Class | Area (1000 ha) | Forest | Other wooded land | Other land |
| | Forest | 21 875.33 | 100.00 % | % | % |
| | Other wooded land | 925.90 | % | 100.00 % | % |
| | Other land | 7 589.77 | 0.00 % | 0.00 % | 100.00 % |
| | Total | 30 391.00 | 21 875.33 | 925.90 | 7 589.77 |
| | | | | | |

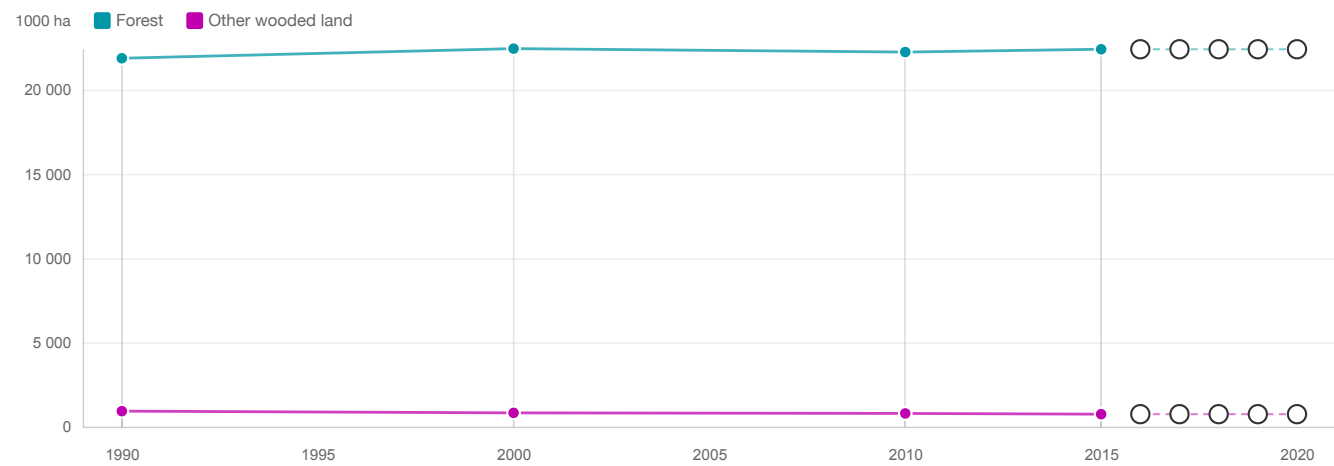
| 2000 | Classifications and definitions | | FRA classes | | |
|------|---------------------------------|----------------|-------------|-------------------|------------|
| | Class | Area (1000 ha) | Forest | Other wooded land | Other land |
| | Forest | 22 445.64 | 100.00 % | % | % |
| | Other wooded land | 823.48 | % | 100.00 % | % |
| | | | | | |

FRA 2020 report, Finland

| | | | | | |
|--|------------|-----------|-----------|--------|----------|
| | Other land | 7 121.88 | 0.00 % | 0.00 % | 100.00 % |
| | Total | 30 391.00 | 22 445.64 | 823.48 | 7 121.88 |

| 2010 | Classifications and definitions | | FRA classes | | |
|------|---------------------------------|----------------|-------------|-------------------|------------|
| | Class | Area (1000 ha) | Forest | Other wooded land | Other land |
| | Forest | 22 242.00 | 100.00 % | % | % |
| | Other wooded land | 789.00 | % | 100.00 % | % |
| | Other land | 7 359.00 | 0.00 % | 0.00 % | 100.00 % |
| | Total | 30 390.00 | 22 242.00 | 789.00 | 7 359.00 |

| 2015 | Classifications and definitions | | FRA classes | | |
|------|---------------------------------|----------------|-------------|-------------------|------------|
| | Class | Area (1000 ha) | Forest | Other wooded land | Other land |
| | Forest | 22 409.00 | 100.00 % | % | % |
| | Other wooded land | 746.00 | % | 100.00 % | % |
| | Other land | 7 235.00 | 0.00 % | 0.00 % | 100.00 % |
| | Total | 30 390.00 | 22 409.00 | 746.00 | 7 235.00 |



| FRA categories | Area (1000 ha) | | | | | | | | |
|-----------------------|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 1990 | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Forest (a) | 21 875.33 | 22 445.64 | 22 242.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 |
| Other wooded land (a) | 925.90 | 823.48 | 789.00 | 746.00 | 746.00 | 746.00 | 746.00 | 746.00 | 746.00 |
| Other land (c-a-b) | 7 589.77 | 7 121.88 | 7 360.00 | 7 236.00 | 7 236.00 | 7 236.00 | 7 236.00 | 7 236.00 | 7 236.00 |
| Total land area (c) | 30 391.00 | 30 391.00 | 30 391.00 | 30 391.00 | 30 391.00 | 30 391.00 | 30 391.00 | 30 391.00 | 30 391.00 |

The FAOSTAT land area figure for the year 2015 is used for all reference years

| Climatic domain | % of forest area 2015 | Override value |
|-----------------|-----------------------|----------------|
| Boreal | 98.00 | 97.40 |
| Temperate | 2.00 | 2.60 |
| Sub-tropical | 0.00 | 0.00 |
| Tropical | 0.00 | 0.00 |

Comments

The 2015 estimates differ from those presented in 2015 reporting because those older estimates were predictions and have now been replaced with actual data.

1b Forest characteristics

National data

Data sources

| | | |
|------|---------------------|---------------------------|
| 1990 | References | |
| | Methods used | National Forest Inventory |
| | Additional comments | NFI8 |

| | | |
|------|---------------------|---------------------------|
| 2000 | References | |
| | Methods used | National Forest Inventory |
| | Additional comments | NFI9 |

| | | |
|------|---------------------|---------------------------|
| 2010 | References | |
| | Methods used | National Forest Inventory |
| | Additional comments | NFI11 2009-2013 |

| | | |
|------|---------------------|---|
| 2015 | References | |
| | Methods used | National Forest Inventory |
| | Additional comments | NFI11 2013, Åland and Northern Lapland + NFI12 2014-2017 (the year 2018 missing from data at the time of reporting) |

Classifications and definitions

| | | |
|------|-------------------|-------------|
| 1990 | National class | Definition |
| | Forest | Same as FRA |
| | Other wooded land | Same as FRA |
| | Other land | Same as FRA |

| | | |
|------|----------------|-------------|
| 2000 | National class | Definition |
| | Forest | Same as FRA |

| | | |
|--------------------------|-------------------|-------------|
| FRA 2020 report, Finland | | |
| | Other wooded land | Same as FRA |
| | Other land | Same as FRA |

| 2010 | National class | Definition |
|------|-------------------|-------------|
| | Forest | Same as FRA |
| | Other wooded land | Same as FRA |
| | Other land | Same as FRA |

| 2015 | National class | Definition |
|------|-------------------|-------------|
| | Forest | Same as FRA |
| | Other wooded land | Same as FRA |
| | Other land | Same as FRA |

Original data and reclassification

| 1990 | Classifications and definitions | | FRA classes | | |
|------|---------------------------------|----------------|-------------------------------|-------------------|----------------------|
| | Class | Area (1000 ha) | Naturally regenerating forest | Plantation forest | Other planted forest |
| | Forest | 21 875.33 | 79.93 % | 0.10 % | 19.97 % |
| | Total | 21 875.33 | 17 484.95 | 21.88 | 4 368.50 |

| Plantation forest | Area (1000 ha) | ...of which introduced |
|-------------------|----------------|------------------------|
| Forest | 21.88 | 100.00 % |
| Total | 21.88 | 21.88 |

| 2000 | Classifications and definitions | | FRA classes | | |
|------|---------------------------------|----------------|-------------------------------|-------------------|----------------------|
| | Class | Area (1000 ha) | Naturally regenerating forest | Plantation forest | Other planted forest |
| | Forest | 22 445.64 | 77.08 % | 0.11 % | 22.81 % |
| | Total | 22 445.64 | 17 301.10 | 24.69 | 5 119.85 |

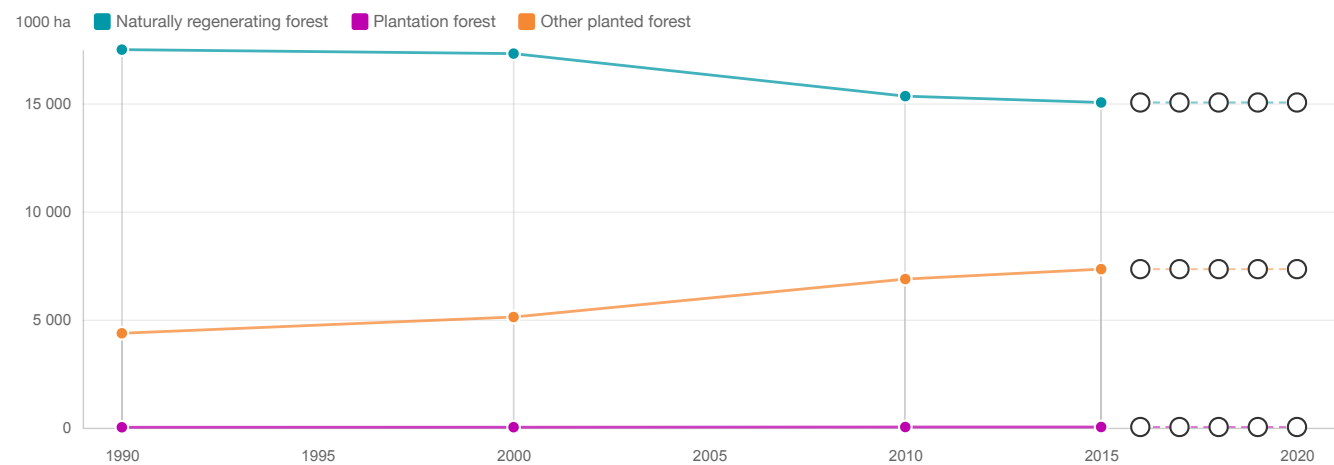
| Plantation forest | Area (1000 ha) | ...of which introduced |
|-------------------|----------------|------------------------|
| Forest | 24.69 | 100.00 % |
| Total | 24.69 | 24.69 |

| 2010 | Classifications and definitions | | FRA classes | | |
|------|---------------------------------|------------------|-------------------------------|-------------------|----------------------|
| | Class | Area (1000 ha) | Naturally regenerating forest | Plantation forest | Other planted forest |
| | Forest | 22 242.00 | 68.94 % | 0.15 % | 30.91 % |
| | Total | 22 242.00 | 15 333.63 | 33.36 | 6 875.00 |

| Plantation forest | Area (1000 ha) | ...of which introduced |
|-------------------|----------------|------------------------|
| Forest | 33.36 | 100.00 % |
| Total | 33.36 | 33.36 |

| 2015 | Classifications and definitions | | FRA classes | | |
|------|---------------------------------|------------------|-------------------------------|-------------------|----------------------|
| | Class | Area (1000 ha) | Naturally regenerating forest | Plantation forest | Other planted forest |
| | Forest | 22 409.00 | 67.12 % | 0.15 % | 32.73 % |
| | Total | 22 409.00 | 15 040.92 | 33.61 | 7 334.47 |

| Plantation forest | Area (1000 ha) | ...of which introduced |
|-------------------|----------------|------------------------|
| Forest | 33.61 | 100.00 % |
| Total | 33.61 | 33.61 |



| FRA categories | Forest area (1000 ha) | | | | | | | | |
|-----------------------------------|-----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | 1990 | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Naturally regenerating forest (a) | 17 484.95 | 17 301.10 | 15 333.63 | 15 040.92 | 15 040.92 | 15 040.92 | 15 040.92 | 15 040.92 | 15 040.92 |
| Planted forest (b) | 4 390.38 | 5 144.54 | 6 908.37 | 7 368.08 | 7 368.08 | 7 368.08 | 7 368.08 | 7 368.08 | 7 368.08 |
| Plantation forest | 21.88 | 24.69 | 33.36 | 33.61 | 33.61 | 33.61 | 33.61 | 33.61 | 33.61 |
| ...of which introduced species | 21.88 | 24.69 | 33.36 | 33.61 | 33.61 | 33.61 | 33.61 | 33.61 | 33.61 |
| Other planted forest | 4 368.50 | 5 119.85 | 6 875.00 | 7 334.47 | 7 334.47 | 7 334.47 | 7 334.47 | 7 334.47 | 7 334.47 |
| Total (a+b) | 21 875.33 | 22 445.64 | 22 242.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 |
| Total forest area | 21 875.33 | 22 445.64 | 22 242.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 |

Comments

If it is not possible to separate if the forest is planted or natural, it is classified as natural in the NFI field work. In NFI8 and NFI9 data that were used for estimates in 1990 and 2010 the regeneration method is always coded as natural for mature forests, because it is often not possible to make the difference. From NFI10 onwards (reporting year 2010 onwards) possible planting or direct seeding has always been registered. This has caused an abrupt increase in the area of planted forests in 2010. Partly the change is real because share of natural regeneration has decreased.

Plantation here is defined as planted forest where the tree species is introduced species (Larix spp. is regarded here as introduced species).

1c Primary forest and special forest categories

National Data

Data sources + type of data source eg NFI, etc

NFI8 1986-1994 for 1990; NFI9 1996-2003 for 2000; NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020

National classification and definitions

Primary forest includes areas that fill all following criteria: No clear signs of human acitivity, at least 160 (South Finland) or 200 (North) year age, part of protected area

Temporarily unstocked/recently regenerated includes clear cut areas and young seedlings stands (mean height below 1.3 meters)

Original data

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Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Area (1000 ha) | | | | |
|---|----------------|----------|----------|----------|----------|
| | 1990 | 2000 | 2010 | 2015 | 2020 |
| Primary forest | | | 234.00 | 203.00 | 203.00 |
| Temporarily unstocked and/or recently regenerated | 1 607.00 | 1 542.14 | 1 595.00 | 1 418.00 | 1 418.00 |
| Bamboos | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mangroves | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rubber wood | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Comments

For 1990 and 2000 we do not have possiblity to estimate the area of primary forest in such a way that the result would correspond to the results of later years. Only in NF110 (used for 2010 reporting) we introduced new variables describing the naturalness of forest. In 1990 ad 2000 figures the primary forest is included in naturally regenerated forests.

1d Annual forest expansion, deforestation and net change

National Data

Data sources + type of data source eg NFI, etc

NFI9, NFI11, and combination of NFI11(2013)/NFI12(2014-2017) for 1990-2000, 2000-2010, 2010-2015, respectively. For 2015-2020 the latest calculated figure used.

National classification and definitions

-

Original data

Forest expansion figures 1990-2000 change estimated with NFI9; 2000-2010 with NFI10; 2010-2015 with NFI11/12

The forest area net change come as a difference of reporting year-specific forest areas from table 1. Deforestation automatically calculated as a difference from net change and expansion.

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Area (1000 ha/year) | | | |
|-------------------------------|---------------------|-----------|-----------|-----------|
| | 1990-2000 | 2000-2010 | 2010-2015 | 2015-2020 |
| Forest expansion (a) | 69.21 | -18.27 | 33.94 | |
| ...of which afforestation | 9.00 | 1.01 | 4.02 | |
| ...of which natural expansion | 8.65 | 0.19 | 1.16 | |
| Deforestation (b) | 12.18 | 2.09 | 0.54 | |
| Forest area net change (a-b) | 57.03 | -20.36 | 33.40 | 0.00 |

Comments

In Table 1c I have now entered the Deforestation, afforestation and natural expansion estimates based on NFI plot registrations on change. The data row Forest expansion is then automatically calculated by the apps..

When we calculate all the results from change classifications registered for NFI plots we get the result below. The net change summed from this Table does not equal to the forest area estimates in Table 1 because Table 1 is calculated from each NFI data. The estimates in both tables contain random sampling error.

| category | 1990-2000 | 2000-2010 | 2010-2015 |
|-----------------|-----------|-----------|-----------|
| Expansion | 17.66 | 1.2 | 5.18 |
| ..afforestation | 9 | 1.01 | 4.02 |
| ..natural | 8.65 | 0.19 | 1.16 |
| Deforestation | 12.18 | 2.09 | 0.54 |

1e Annual reforestation

National Data

Data sources + type of data source eg NFI, etc

NFI9, NFI11, and combination of NFI11(2013)/NFI12(2014-2017) for 1990-2000, 2000-2010, 2010-2015, respectively. For 2015-2020 the latest calculated figure used.

National classification and definitions

Reforestation includes planting/direct seeding and natural regeneration, as estimated with NFI data.

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Area (1000 ha/year) | | | |
|----------------|---------------------|-----------|-----------|-----------|
| | 1990-2000 | 2000-2010 | 2010-2015 | 2015-2020 |
| Reforestation | 105.93 | 122.09 | 122.44 | 122.44 |

Comments

1f Other land with tree cover

National Data

Data sources + type of data source eg NFI, etc

Luke Statistics service stat.luke.fi and NFI's: NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020. For the older reporting years not possible to calculate.

National classification and definitions

Tree orchards according to Luke Statistics.

Agroforestry=Land that is fills both the criteria: a) Other land with tree cover (OLwT) and b) Agriculture land used as pasture (hakamaa, luonnonniitty tai luonnonlaidun) in national classification.

Trees in urban settings=Land that is fills all the criteria: a) Other land with tree cover (OLwT) and b) Built-up land in national classification and c) is none of the listed specific categories such as peat production site or gravel digging site

Other=remaining OLwT. Note: for 1990 and 2000 all OLwT area is registered in this category because distinction is not possible

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Area (1000 ha) | | | | |
|------------------------------------|----------------|----------|----------|----------|----------|
| | 1990 | 2000 | 2010 | 2015 | 2020 |
| Palms (a) | | | 0.00 | 0.00 | 0.00 |
| Tree orchards (b) | | | 1.00 | 1.00 | 1.00 |
| Agroforestry (c) | | | 13.00 | 8.00 | 8.00 |
| Trees in urban settings (d) | | | 166.00 | 194.00 | 194.00 |
| Other (specify in comments) (e) | 183.00 | 183.00 | 35.00 | 12.00 | 12.00 |
| Total (a+b+c+d+e) | 183.00 | 183.00 | 215.00 | 215.00 | 215.00 |
| Other land area | 7 589.77 | 7 121.88 | 7 360.00 | 7 236.00 | 7 236.00 |

Comments

2 Forest growing stock, biomass and carbon

2a Growing stock

National Data

Data sources + type of data source eg NFI, etc

National Forest Inventory (NFI) data used.

NFI8 1986-1994 for 1990; NFI9 1996-2003 for 2000; NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020

National classification and definitions

Minimum dbh=0 cm over bark used (height > 1.3 meters). The growing stock is defined as living stem volume above stump.

Plantation forest=planted forest with introduced species

Original data

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Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Growing stock m³/ha (over bark) | | | | | | | | |
|----------------------------------|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1990 | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Naturally regenerating forest | | 104.50 | 116.37 | 118.99 | 118.99 | 118.99 | 118.99 | 118.99 | 118.99 |
| Planted forest | | 52.48 | 80.86 | 89.45 | 89.45 | 89.45 | 89.45 | 89.45 | 89.45 |
| ...of which plantation forest | | 31.59 | 76.43 | 89.25 | 89.25 | 89.25 | 89.25 | 89.25 | 89.25 |
| ...of which other planted forest | | 52.74 | 80.89 | 89.45 | 89.45 | 89.45 | 89.45 | 89.45 | 89.45 |
| Forest | 85.85 | 92.58 | 105.34 | 109.28 | 109.28 | 109.28 | 109.28 | 109.28 | 109.28 |
| Other wooded land | 7.56 | 6.36 | 9.70 | 9.56 | 9.56 | 9.56 | 9.56 | 9.56 | 9.56 |

| FRA categories | Total growing stock (million m³ over bark) | | | | | | | | |
|----------------------------------|--|----------|----------|----------|----------|----------|----------|----------|----------|
| | 1990 | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Naturally regenerating forest | | 1 808.00 | 1 784.43 | 1 789.77 | 1 789.77 | 1 789.72 | 1 789.72 | 1 789.72 | 1 789.72 |
| Planted forest | | 270.00 | 558.64 | 659.08 | 659.08 | 659.07 | 659.07 | 659.07 | 659.07 |
| ...of which plantation forest | | 0.78 | 2.55 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| ...of which other planted forest | | 270.00 | 556.10 | 656.08 | 656.07 | 656.07 | 656.07 | 656.07 | 656.07 |
| Forest | 1 878.00 | 2 078.00 | 2 343.07 | 2 448.85 | 2 448.85 | 2 448.85 | 2 448.85 | 2 448.85 | 2 448.85 |
| Other wooded land | 7.00 | 5.24 | 7.65 | 7.13 | 7.13 | 7.13 | 7.13 | 7.13 | 7.13 |

Comments

2b Growing stock composition

National Data

Data sources + type of data source eg NFI, etc

National Forest Inventory (NFI) data used.

NFI8 1986-1994 for 1990; NFI9 1996-2003 for 2000; NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Scientific name | Common name | Growing stock in forest (million m³ over bark) | | | | |
|-------------------------------------|----------------------------|--------------------------------|--|----------|----------|----------|----------|
| | | | 1990 | 2000 | 2010 | 2015 | 2020 |
| Native tree species | | | | | | | |
| #1 Ranked in terms of volume | Pinus sylvestris | Scots pine | 855.29 | 991.20 | 1 163.48 | 1 226.05 | 1 226.05 |
| #2 Ranked in terms of volume | Picea abies | Norway spruce | 688.15 | 692.10 | 706.28 | 731.18 | 731.18 |
| #3 Ranked in terms of volume | Betula pubescens | Downy birch | 211.51 | 248.10 | 282.69 | 285.99 | 285.99 |
| #4 Ranked in terms of volume | Betula pendula | Silver birch | 63.54 | 75.00 | 106.25 | 121.06 | 121.06 |
| #5 Ranked in terms of volume | Populus tremula | European aspen | 23.75 | 32.40 | 41.06 | 40.81 | 40.81 |
| #6 Ranked in terms of volume | Alnus incana | Grey alder | 20.55 | 21.90 | 18.96 | 17.16 | 17.16 |
| #7 Ranked in terms of volume | Alnus glutinosa | Black alder | 3.99 | 4.80 | 7.11 | 8.29 | 8.29 |
| #8 Ranked in terms of volume | Salix caprea | Goat willow | | 6.10 | 7.03 | 6.97 | 6.97 |
| #9 Ranked in terms of volume | Sorbus aucuparia | European mountain-ash | | 5.10 | 6.44 | 6.88 | 6.88 |
| #10 Ranked in terms of volume | Prudus padus | European bird cherry | | 0.40 | 0.70 | 0.70 | 0.70 |
| Remaining native tree species | | | 10.20 | 1.00 | 1.02 | 0.95 | 0.95 |
| Total volume of native tree species | | | 1 876.98 | 2 078.10 | 2 341.02 | 2 446.04 | 2 446.04 |
| Introduced tree species | | | | | | | |
| #1 Ranked in terms of volume | Larix sibirica, L. decidua | Siberian larch, European larch | | 0.31 | 1.00 | 1.69 | 1.69 |
| #2 Ranked in terms of volume | Pinus contorta | Contorta pine | | 0.29 | 0.80 | 0.79 | 0.79 |
| #3 Ranked in terms of volume | Abies spp. | | | 0.01 | 0.03 | 0.04 | 0.04 |

| FRA categories | Scientific name | Common name | Growing stock in forest (million m³ over bark) | | | | |
|---|---------------------------------|-------------|--|----------|----------|----------|----------|
| | | | 1990 | 2000 | 2010 | 2015 | 2020 |
| Native tree species | | | | | | | |
| #4 Ranked in terms of volume | Picea spp (other than P. abies) | | | 0.00 | 0.07 | 0.01 | 0.01 |
| #5 Ranked in terms of volume | Not identified | | 1.02 | | | | |
| Remaining introduced tree species | | | | 0.05 | 0.15 | 0.28 | 0.28 |
| Total volume of introduced tree species | | | 1.02 | 0.66 | 2.05 | 2.81 | 2.81 |
| Total growing stock | | | 1 878.00 | 2 078.76 | 2 343.07 | 2 448.85 | 2 448.85 |

Comments

2c Biomass stock

National Data

Data sources + type of data source eg NFI, etc

National Forest Inventory (NFI) data used.

NFI8 1986-1994 for 1990; NFI9 1996-2003 for 2000; NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020

National classification and definitions

0 cm threshold for dbh (tree height > 1,3 meters)

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Forest biomass (tonnes/ha) | | | | | | | | |
|----------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1990 | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Above-ground biomass | 43.86 | 49.14 | 53.64 | 59.77 | 59.77 | 59.77 | 59.77 | 59.77 | 59.77 |
| Below-ground biomass | 13.05 | 15.20 | 16.51 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 | 17.31 |
| Dead wood | 1.37 | 1.37 | 1.49 | 1.49 | 1.49 | 1.49 | 1.49 | 1.49 | 1.49 |

Comments

2d Carbon stock

National Data

Data sources + type of data source eg NFI, etc

According to Finnish Green House Gas reporting, based on NFI data.

National classification and definitions

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Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Forest carbon (tonnes/ha) | | | | | | | | |
|--------------------------------|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1990 | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Carbon in above-ground biomass | 21.93 | 24.57 | 26.82 | 29.88 | 29.88 | 29.88 | 29.88 | 29.88 | 29.88 |
| Carbon in below-ground biomass | 6.52 | 7.60 | 8.25 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 |
| Carbon in dead wood | 0.68 | 0.68 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 | 0.74 |
| Carbon in litter | 10.03 | 10.76 | 11.26 | 11.26 | 11.26 | 11.26 | 11.26 | 11.26 | 11.26 |
| Soil carbon | 165.15 | 166.46 | 168.65 | 166.66 | 166.66 | 166.66 | 166.66 | 166.66 | 166.66 |

| | |
|--|-------|
| Soil depth (cm) used for soil carbon estimates | 30.00 |
|--|-------|

Comments

Soil depth 30 cm used for mineral soils, 1 m for peatlands.

3 Forest designation and management

3a Designated management objective

National Data

Data sources + type of data source eg NFI, etc

National Forest Inventory (NFI) data used.

NFI8 1986-1994 for 1990; NFI9 1996-2003 for 2000; NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020

National classification and definitions

Conservation of biodiversity includes 1) all areas protected with Nature Protection Act, except landscape protection areas (maisemansuojelualue) and nature monuments (luonnonmuistomerkki) 2) wilderness areas (erämaat) 3) other legally protected forests 4) Forests protected by the decision of forest owner (Forest and Park Service, large companies, municipalities) 5) areas in those Forest Protection Programmes that prohibit forestry operations 6) areas protected in land use planning

Social services forests include 1) forests protected for scenic/landscape values (maisemansuojelualueet), 2) recreation areas (ulkoilureittit, retkeilyalue), 3) Forest and Park service forests with limitations due to game management etc, 4) areas with restrictions set in land use planning (kaavoitusalueet), 5) forests where the vicinity of houses or scenic values are effecting forest management operations.

Other includes high altitude forests where forest management is restricted due to poor regeneration (suojametsäalueet)

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

Primary designated management objective

| FRA 2020 categories | Forest area (1000 ha) | | | | |
|----------------------------------|-----------------------|-----------|-----------|-----------|-----------|
| | 1990 | 2000 | 2010 | 2015 | 2020 |
| Production (a) | | | | | |
| Protection of soil and water (b) | | | | | |
| Conservation of biodiversity (c) | 1 235.20 | 2 223.11 | 3 001.51 | 2 830.66 | 2 830.66 |
| Social Services (d) | 400.09 | 605.99 | 599.51 | 529.76 | 529.76 |
| Multiple use (e) | | | | | |
| Other (specify in comments) (f) | | 916.01 | 287.13 | 339.83 | 339.83 |
| None/unknown (g) | 20 240.04 | 18 700.53 | 18 353.85 | 18 708.75 | 18 708.75 |
| Total forest area | 21 875.33 | 22 445.64 | 22 242.00 | 22 409.00 | 22 409.00 |

Total area with designated management objective

| FRA 2020 categories | Forest area (1000 ha) | | | | |
|------------------------------|-----------------------|-----------|-----------|-----------|-----------|
| | 1990 | 2000 | 2010 | 2015 | 2020 |
| Production | 20 640.13 | 19 306.41 | 18 953.51 | 19 238.46 | 19 238.46 |
| Protection of soil and water | | | | | |
| Conservation of biodiversity | 1 235.20 | 2 223.11 | 3 001.51 | 2 830.66 | 2 830.66 |
| Social Services | 400.09 | 605.99 | 599.51 | 529.76 | 529.76 |
| Other (specify in comments) | | | | | |

Comments

3b Forest area within protected areas and forest area with long-term management plans

National Data

Data sources + type of data source eg NFI, etc

National Forest Inventory (NFI) data used.

NFI8 1986-1994 for 1990; NFI9 1996-2003 for 2000; NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Area (1000 ha) | | | | | | | | |
|---|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 1990 | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Forest area within protected areas | 1 235.20 | 2 223.11 | 3 001.51 | 2 830.66 | 2 830.66 | 2 830.66 | 2 830.66 | 2 830.66 | 2 830.66 |
| Forest area with long-term forest management plan | 21 875.33 | 22 445.64 | 22 242.49 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 | 22 409.00 |
| ...of which in protected areas | 1 235.20 | 2 223.11 | 3 001.51 | 2 830.66 | 2 830.66 | 2 830.66 | 2 830.66 | 2 830.66 | 2 830.66 |

Comments

4 Forest ownership and management rights

4a Forest ownership

National Data

Data sources + type of data source eg NFI, etc

National Forest Inventory (NFI) data used.

NFI8 1986-1994 for 1990; NFI9 1996-2003 for 2000; NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020

National classification and definitions

Ownership category Other includes forests where NFI was not able to identify the owner and forests where owner is estate (kuolinpesä) that not yet has been divided to individual owners

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Forest area (1000 ha) | | | |
|---|-----------------------|-----------|-----------|-----------|
| | 1990 | 2000 | 2010 | 2015 |
| Private ownership (a) | 15 153.00 | 15 209.96 | 15 488.25 | 15 397.44 |
| ...of which owned by individuals | 12 972.00 | 13 296.33 | 13 434.67 | 13 325.39 |
| ...of which owned by private business entities and institutions | 2 181.00 | 1 913.63 | 2 053.58 | 2 072.05 |
| ...of which owned by local, tribal and indigenous communities | 0.00 | 0.00 | 0.00 | 0.00 |
| Public ownership (b) | 6 722.00 | 7 209.35 | 6 682.70 | 6 861.23 |
| Unknown/other (specify in comments) (c) | 0.33 | 26.33 | 71.05 | 150.33 |
| Total forest area | 21 875.33 | 22 445.64 | 22 242.00 | 22 409.00 |

Comments

4b Holder of management rights of public forests

National Data

Data sources + type of data source eg NFI, etc

National Forest Inventory (NFI) data used.

NFI8 1986-1994 for 1990; NFI9 1996-2003 for 2000; NFI11 2009-2013 for 2010; NFI11/12 2013-2017 for 2015 and 2020

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Forest area (1000 ha) | | | |
|--|-----------------------|----------|----------|----------|
| | 1990 | 2000 | 2010 | 2015 |
| Public Administration (a) | 6 722.00 | 7 209.35 | 6 682.70 | 6 861.23 |
| Individuals (b) | 0.00 | 0.00 | 0.00 | 0.00 |
| Private business entities and institutions (c) | 0.00 | 0.00 | 0.00 | 0.00 |
| Local, tribal and indigenous communities (d) | 0.00 | 0.00 | 0.00 | 0.00 |
| Unknown/other (specify in comments) (e) | 0.00 | 0.00 | 0.00 | 0.00 |
| Total public ownership | 6 722.00 | 7 209.35 | 6 682.70 | 6 861.23 |

Comments

5 Forest disturbances

5a Disturbances

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Area (1000 ha) | | | | | | | | | | | | | | | | | |
|------------------------------------|------------------|------|------|------|------|------|------|------|------|------|------------------|------|------|------|------|------------------|------------------|------------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Insects (a) | | | | | | | | | | | 0.30 | | | | | 0.00 | | |
| Diseases (b) | | | | | | | | | | | 9.20 | | | | | 2.20 | | |
| Severe weather events (c) | | | | | | | | | | | 16.20 | | | | | 6.10 | | |
| Other (specify in comments) (d) | | | | | | | | | | | 28.00 | | | | | 21.00 | | |
| Total (a+b+c+d) | – | – | – | – | – | – | – | – | – | – | 53.70 | – | – | – | – | 29.30 | – | – |
| Total forest area | 22 445.64 | – | – | – | – | – | – | – | – | – | 22 242.00 | – | – | – | – | 22 409.00 | 22 409.00 | 22 409.00 |

Comments

In NFI we record the damages that are effecting the forest at the time of measurement. Thus, the areas are not the areas of each damage occurring (starting) in the reporting year but cumulative area that is observed. For the reporting we selected only severe or total damages and excluded the less severe damages.

5b Area affected by fire

National Data

Data sources + type of data source eg NFI, etc

The data are provided by the Emergency Services College in Finland, contact person: johannes.ketola@pelastusopisto.fi. The data are available on-line in the resource and accident statistics system of Finnish rescue services (PRONTO), in Finnish only. Basic information on forest fires into PRONTO is produced by regional emergency response centers. More information: Rescue Services' Pocket Statistics 2013-2017: http://info.smedu.fi/kirjasto/Sarja_D/D3_2018.pdf

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

| FRA categories | Area (1000 ha) | | | | | | | | | | | | | | | | | |
|----------------------------------|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Total land area affected by fire | 1.20 | 0.30 | 0.82 | 1.30 | 0.74 | 1.07 | 2.21 | 0.84 | 1.19 | 1.00 | 0.92 | 0.91 | 0.22 | 0.74 | 1.32 | 0.31 | 0.56 | 0.79 |
| ...of which on forest | 0.27 | 0.19 | 0.59 | 0.67 | 0.36 | 0.49 | 1.62 | 0.58 | 0.83 | 0.58 | 0.52 | 0.59 | 0.09 | 0.47 | 0.89 | 0.15 | 0.32 | 0.47 |

Comments

5c Degraded forest

| | | |
|---|---|----|
| Does your country monitor area of degraded forest | | No |
| If "yes" | What is the national definition of "Degraded forest"? | |
| | Describe the monitoring process and results | |

Comments

6 Forest policy and legislation

6a Policies, Legislation and national platform for stakeholder participation in forest policy

National Data

Data sources + type of data source eg NFI, etc

Policies supporting SFM: National Forest Strategy 2025, Forest Biodiversity Programme METSO, Finnish Bioeconomy strategy, see <https://mmm.fi/en/forests/strategies-and-programmes>). National Climate and Energy Strategy for 2030 (<http://julkaisut.valtioneuvosto.fi/handle/10024/79247>) and Rural Development Programme (<https://mmm.fi/en/rural-areas/rural-development-programme>)

National classification and definitions

-

Original data

-

| Indicate the existence of | Boolean (Yes/No) | |
|---|------------------|--------------|
| | National | Sub-national |
| Policies supporting SFM | Yes | Yes |
| Legislations and regulations supporting SFM | Yes | No |
| Platform that promotes or allows for stakeholder participation in forest policy development | Yes | Yes |
| Traceability system(s) for wood products | Yes | Yes |

Comments

Policies supporting SFM:

- 1) National Forest Strategy 2025, Forest Biodiversity Programme METSO, Finnish Bioeconomy strategy, see <https://mmm.fi/en/forests/strategies-and-programmes>).
- 2) National Climate and Energy Strategy for 2030 (<http://julkaisut.valtioneuvosto.fi/handle/10024/79247>) and
- 3) Rural Development Programme (<https://mmm.fi/en/rural-areas/rural-development-programme>)
- 4) The National Forest Strategy is further elaborated at sub-national level, in regional forestry programmes, reviewed every 5 years.

Legislations and regulations supporting SFM:

- 1) Forestry Act <https://www.finlex.fi/fi/laki/kaannokset/1996/en19961093.pdf>;
- 2) Wilderness Act (Erämaalaki, only in Finnish) <https://www.finlex.fi/fi/laki/ajantasa/1991/19910062>
- 3) Act on Trade in Forest Reproductive Material: <http://www.finlex.fi/en/laki/kaannokset/2002/en20020241.pdf>
- 4) The Forest Damages Prevention Act: <http://www.finlex.fi/en/laki/kaannokset/2013/en20131087.pdf>
- 5) Decree of the Ministry of Agriculture and Forestry on Trade in Forest Reproductive Material (only in Finnish, Maa- ja metsätalousministeriön asetus metsänviljelyaineiston kaupasta (1055/2002): <https://www.finlex.fi/fi/laki/alkup/2002/20021055>
- 6) Act on the Financing of Sustainable Forestry: <https://mmm.fi/documents/1410837/2400751/Act+on+the+Financing+of+Sustainable+Forestry.pdf/1bc17e03-a5b3-8900-33c2-4a3678ca4344/Act+on+the+Financing+of+Sustainable+Forestry.pdf.pdf>
- 7) Nature Conservation Act: <http://www.finlex.fi/en/laki/kaannokset/1996/en19961096.pdf>

Platforms promoting stakeholder participatio in ofrest policy develoment:

- 1) Forest Council. The Forest Council follows the implementation of National Forest Strategy. A great variety of stakeholders, Government ministries, forest administration, research and education, forest owners, forest industry, energy sector, environmental organisations, employer organisations and entrepreneurs as well as youth and leisure-time organisations, are represented in the Forest Council.
- 2) Regional Forest Councils for setting and mplementation of regional forestry programmes.

Traceability systems for wood products

- 1) PEFC and FSC certification systems cover almost 100 % of forest area

2) All main timber buyers and wood product manufactures use audit systems for controlling that origin of wood is known

6b Area of permanent forest estate

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

| FRA 2020 categories | Forest area (1000 ha) | | | | | |
|---------------------------------|-----------------------|------|------|------|------|------|
| | Applicable? | 1990 | 2000 | 2010 | 2015 | 2020 |
| Area of permanent forest estate | No | | | | | |

Comments

7 Employment, education and NWFP

7a Employment in forestry and logging

National Data

Data sources + type of data source eg NFI, etc

The totals are based on the Labour Force Surveys. They are three-year averages of the persons employed in forestry. Please note that FTEs were not applied for Finland. Therefore the Finnish FRA reply is fully consistent with the pan-European enquiry. This was agreed with Roman Michalak, and therefore Finland reports the numbers of employed persons. It is not relevant to try to report employment in various sub-categories by gender. The strata are far too small for this. National accounts were used to calculate separate figures for silviculture, logging etc.

National classification and definitions

Standard Industrial Classification (TOL 2002) was applied for the years 1990 and 2000, TOL 2008 was used when calculating figures for 2010 and 2015.

http://www.stat.fi/meta/luokitukset/toimiala/001-2008/index_en.html

The classifications in LFSs, see: http://www.stat.fi/til/tyti/2018/08/tyti_2018_08_2018-09-25_laa_001_en.html

Original data

Labour Force Survey: http://www.stat.fi/til/tyti/index_en.html

National accounts: http://www.stat.fi/til/vtp/index_en.html

| FRA 2020 categories | Full-time equivalents (1000 FTE) | | | | | | | | | | | |
|--|----------------------------------|--------|-------|-------|--------|-------|-------|--------|-------|-------|--------|-------|
| | 1990 | | | 2000 | | | 2010 | | | 2015 | | |
| | Total | Female | Male | Total | Female | Male | Total | Female | Male | Total | Female | Male |
| Employment in forestry and logging | 36.60 | 2.60 | 34.00 | 23.00 | 2.50 | 20.50 | 22.80 | 2.40 | 20.40 | 24.30 | 2.60 | 21.70 |
| ...of which silviculture and other forestry activities | 13.50 | | | 7.40 | | | 6.30 | | | 6.20 | | |
| ...of which logging | 18.70 | | | 10.10 | | | 12.60 | | | 14.10 | | |
| ...of which gathering of non wood forest products | | | | | | | | | | | | |
| ...of which support services to forestry | 4.40 | | | 5.50 | | | 3.90 | | | 4.00 | | |

Comments

The sub-categories by gender are far too detailed data to be requested. Forestry is a small sector!

7b Graduation of students in forest-related education

National Data

Data sources + type of data source eg NFI, etc

Statistics Finland, Education; https://www.stat.fi/index_en.html

A separate report from the statistical database.

National classification and definitions

Finnish Standard Classification of Education 2016, https://www.stat.fi/meta/luokitukset/koulutus/001-2016/index_en.html

Original data

Statistics Finland, Education; https://www.stat.fi/index_en.html

| FRA 2020 categories | Number of graduated students | | | | | | | | | | | |
|----------------------------------|------------------------------|--------|--------|----------|--------|----------|----------|--------|----------|----------|--------|----------|
| | 1990 | | | 2000 | | | 2010 | | | 2015 | | |
| | Total | Female | Male | Total | Female | Male | Total | Female | Male | Total | Female | Male |
| Doctoral degree | 19.00 | 6.00 | 13.00 | 32.00 | 8.00 | 24.00 | 24.00 | 9.00 | 15.00 | 28.00 | 14.00 | 14.00 |
| Master's degree | 144.00 | 33.00 | 111.00 | 177.00 | 70.00 | 107.00 | 166.00 | 67.00 | 99.00 | 147.00 | 65.00 | 82.00 |
| Bachelor's degree | | | | 271.00 | 70.00 | 201.00 | 405.00 | 124.00 | 281.00 | 320.00 | 91.00 | 229.00 |
| Technician certificate / diploma | 476.00 | 15.00 | 461.00 | 1 891.00 | 203.00 | 1 688.00 | 1 507.00 | 189.00 | 1 318.00 | 1 191.00 | 135.00 | 1 056.00 |
| Total | 639.00 | 54.00 | 585.00 | 2 371.00 | 351.00 | 2 020.00 | 2 102.00 | 389.00 | 1 713.00 | 1 686.00 | 305.00 | 1 381.00 |

Comments

The figures include numbers of graduated students in forestry and forest industry education.

Figures presented in the category 'Technician certificate / diploma' consist of number of graduated students for education level category 'Upper secondary level education'.

7c Non wood forest products removals and value 2015

National Data

Data sources + type of data source eg NFI, etc

Game: Luke

Berries and mushrooms: TNS Gallup Ltd. Food and Farm Facts for marketed berries and mushrooms. The total amount of berry picking is estimates to be 9 times the amount of marketed berries. The total amount of mushroom picking is estimates to be 6 times the amount of marketed mushrooms.

Christmas trees: Estimate by Christmas Tree Producers' Association.

Reindeer: The Reindeer Herders' Association

Lichen and moss: Board of Customs. Marketed figures include only exports.

National classification and definitions

-

Original data

-

| | Name of NWFP product | Key species | Quantity | Unit | Value (1000 local currency) | NWFP category |
|---------------------------|----------------------|----------------------------------|----------|-------------|-----------------------------|---------------------|
| #1 | Bags of game | Alces alces | 8 117 | tonnes | 65 621 | 12 Wild meat |
| #2 | Wild berries | Vaccium vitis-edea, V. myrtillus | 153 036 | tonnes | 193 221 | 1 Food |
| #3 | Reindeer meat | Rangifer tarandus tarandus | 2 000 | tonnes | 18 480 | 12 Wild meat |
| #4 | Christmas trees | Picea abies | 1 350 | 1000 pieces | 27 000 | 6 Ornamental plants |
| #5 | Wild mushrooms | | 996 | tonnes | 2 688 | 1 Food |
| #6 | Lichen and moss | Cladina spp. | 223 | tonnes | 1 332 | 6 Ornamental plants |
| #7 | | | | | | 6 Ornamental plants |
| #8 | | | | | | |
| #9 | | | | | | |
| #10 | | | | | | |
| All other plant products | | | | | | |
| All other animal products | | | | | | |
| Total | | | | | 308 342 | |

| | |
|------------------|--|
| Name of currency | |
|------------------|--|

Comments

8 Sustainable Development Goal 15

8a Sustainable Development Goal 15

SDG Indicator 15.1.1 Forest area as proportion of total land area 2015

| Indicator | Percent | | | | | | | |
|---|---------|-------|-------|-------|-------|-------|-------|-------|
| | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Forest area as proportion of total land area 2015 | 73.86 | 73.19 | 73.74 | 73.74 | 73.74 | 73.74 | 73.74 | 73.74 |

| | |
|----------------------------|--|
| Name of agency responsible | Natural Resources Institute Finland (Luke) |
|----------------------------|--|

SDG Indicator 15.2.1 Progress towards sustainable forest management

| Sub-Indicator 1 | Percent | | | | | | |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 2000-2010 | 2010-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 |
| Forest area annual net change rate | -0.09 | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | |
|----------------------------|--|
| Name of agency responsible | Natural Resources Institute Finland (Luke) |
|----------------------------|--|

| Sub-Indicator 2 | Forest biomass (tonnes/ha) | | | | | | | |
|--------------------------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Above-ground biomass stock in forest | 49.14 | 53.64 | 59.77 | 59.77 | 59.77 | 59.77 | 59.77 | 59.77 |

| | |
|----------------------------|--|
| Name of agency responsible | Natural Resources Institute Finland (Luke) |
|----------------------------|--|

| Sub-Indicator 3 | Percent (2015 forest area baseline) | | | | | | | |
|--|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Proportion of forest area located within legally established protected areas | 9.92 | 13.39 | 12.63 | 12.63 | 12.63 | 12.63 | 12.63 | 12.63 |

| | |
|----------------------------|--|
| Name of agency responsible | Natural Resources Institute Finland (Luke) |
|----------------------------|--|

| Sub-Indicator 4 | Percent (2015 forest area baseline) | | | | | | | |
|--|-------------------------------------|-------|--------|--------|--------|--------|--------|--------|
| | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Proportion of forest area under long-term forest management plan | 100.00 | 99.26 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

| | |
|----------------------------|--|
| Name of agency responsible | Natural Resources Institute Finland (Luke) |
|----------------------------|--|

| Sub-Indicator 5 | Forest area (1000 ha) | | | | | | | |
|--|-----------------------|-----------|-----------|-----------|-----------|-----------|------|------|
| | 2000 | 2010 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Forest area under independently verified forest management certification schemes | 13 700.00 | 20 796.64 | 15 231.20 | 16 529.98 | 17 744.52 | 18 161.43 | – | – |