

GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

Romania

Rome, 2014

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Global Forest Resources Assessment (FRA). This country report is prepared as a contribution to the FAO publication, the Global Forest Resources Assessment 2015 (FRA 2015).

The content and the structure are in accordance with the recommendations and guidelines given by FAO in the document Guide for country reporting for FRA 2015 (<http://www.fao.org/3/a-au190e.pdf>). These reports were submitted to FAO as official government documents.

The content and the views expressed in this report are the responsibility of the entity submitting the report to FAO. FAO may not be held responsible for the use which may be made of the information contained in this report.

TABLE OF CONTENTS

| | |
|--|----|
| Report preparation and contact persons..... | 4 |
| 1. What is the area of forest and other wooded land and how has it changed over time? | 7 |
| 2. What is the area of natural and planted forest and how has it changed over time? | 14 |
| 3. What are the stocks and growth rates of the forests and how have they changed? | 19 |
| 4. What is the status of forest production and how has it changed over time? | 32 |
| 5. How much forest area is managed for protection of soil and water and ecosystem services? | 40 |
| 6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time? | 46 |
| 7. What is the area of forest affected by woody invasive species? | 49 |
| 8. How much forest area is damaged each year? | 52 |
| 9. What is the forest area with reduced canopy cover? | 57 |
| 10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM? | 58 |
| 11. Is there a national platform that promotes stakeholder participation in forest policy development? | 62 |
| 12. What is the forest area intended to be in permanent forest land use and how has it changed over time? | 63 |
| 13. How does your country measure and report progress towards SFM at the national level? | 66 |
| 14. What is the area of forest under a forest management plan and how is this monitored? | 68 |
| 15. How are stakeholders involved in the management decision making for publicly owned forests? | 71 |
| 16. What is the area of forest under an independently verified forest certification scheme? | 72 |
| 17. How much money do governments collect from and spend on forests? | 74 |
| 18. Who owns and manages the forests and how has this changed? | 76 |
| 19. How many people are directly employed in forestry? | 82 |
| 20. What is the contribution of forestry to Gross Domestic Product (GDP)? | 84 |
| 21. What is forest area likely to be in the future | 85 |

Report preparation and contact persons

Contact persons

The present report was prepared by the following person(s)

| Name (FAMILY NAME, first name) | Institution/address | Email | Tables |
|--------------------------------|--|-----------------------------|---|
| ZAHARESCU Claudiu | Ministry of Environment and Climate Change, Department of Waters, Forests and Pisciculture/Bld. Gheorghe Magheru 31, Bucharest. | claudiu.zaharescu@mmediu.ro | 1, 3, 4, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21 |
| SBÎRNEA Radu | Ministry of Environment and Climate Change, Department of Waters, Forests and Pisciculture/ Bld. Gheorghe Magheru 31, Bucharest. | radu.sbirnea@gmail.com | 8a, 8.5 |
| MARIN Gheorghe | Forest Research and Management Planning Institute – Department National Forest Inventory/Bld Eroilor, 128, Voluntari, Ilfov | ghmarin@roifn.ro | 1, 2, 3, 5, 7, 9, 16 |
| ROTARU Cosmin | National Administration of Forests Romsilva/Street. Petricani 9A, Bucharest. | paza@rnp.rosilva.ro | 8b, 8.5 |

Introductory Text

Forest cover in Romania is 6.86 million ha, representing 28.8 % of the national territory.

Forest distribution is not uniform geographically, so that 6 % of the forest cover is in the plain, 37 % in the hilly areas and 57 % in the mountain region.

Broadleaves are dominant in Romanian forests, making 76 %, the rest being coniferous.

In comparison with the total forest cover, beech (29 %) and oaks (16 %) are prevailing among broadleaves (IFN), while spruce and white fir are dominant among resinous.

The Ministry of Environment and Climate Change, through the Department of Waters, Forests and Pisciculture is the public central authority responsible for forests, with 9 subordinated Forestry Regime and Hunting Territorial Inspectorates (I.T.R.S.V).

According to Forest Code/2008, the management of forests or the forest services should be ensured by forest districts for all forests, disregarding the ownership type, which are authorized forest management structures with certified forestry staff.

The forest districts could be *state forest districts* - under the National Administration of Forests – Romsilva, or *private forest districts*, set up by public local administrations – Cities and Communes, individuals or legal persons owning forests or by associations of such entities. Optionally, forest owners could also contract forest management and services with Romsilva.

The National Administration of Forests – Romsilva is in charge with the administration of state owned forests, is functioning under the authority of the Ministry of Environment and Climate Change, carries out public and commercial services with forestry specific and it is financially autonomous, receiving however funds from the state budget annually, especially for restoring forest roads/railways affected by disasters, for torrent control works and reforestation of degraded land.

Scientific research and technological development are carried out mainly by the Forest Research and Management Planning Institute and higher education for forestry staff is ensured by six forestry faculties located in Braşov, Suceava, Oradea, Timişoara, Cluj and Bucharest.

The annual harvesting rate is based on the annual allowable cut resulted from the forest management plans.

The wood from the forests publicly owned by the state is sold at public auctions. The other forest owners sell their wood independently. In both cases, the wood is logged by licensed operators.

In addition to their social and protection role, the forests ensure wood production and offer non-wood products like osier, plant seeds and saplings, berries and mushrooms, Christmas trees, trout and medical herbs. Hunting is also a source of income both from the game products (meat, living animals, trophies etc.) and from rent, fees and associated services.

The sustainable forest management has a long tradition in Romania, practically the entire national forest area being managed in terms of the forestry regime - system of technical forestry, economic and legal regulations/norms on management planning, guarding, pest control, logging and regeneration of forests, issued by the central public authority for forestry - for many decades. The main characteristics of the Romanian forest management are: forest repartition by functional zones, maintaining the natural composition of forests, utilization of adequate forest cuttings to maintain the ecological balance and the evolution towards multi-use forests.

Forest conservation is one of the high priorities in the forestry legislation and the whole system of forest management planning in Romania. As mentioned above, the tool used by foresters in order to promote the forest conservation and sustainability is the “functional zoning” system of the forests. There are two major “functional groups” according to ecological, economic and social function to be accomplished by forests.

- Group I - about 53 %: forests with special protection function: water, soil, climate and industrial damaging factor, recreation, preservation of flora and biodiversity conservation, improvement of environmental conditions etc. There are two categories in this group: when any intervention is forbidden or when cuttings are allowed if protection functions remain undisturbed.

- Group II – about 47 %: production and protection forests.

Desk Study?

| Check "yes" if this survey is a Desk Study, "no" otherwise | |
|--|----|
| Desk Study? | no |

1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

1.1 Categories and definitions

| Category | Definition |
|---|---|
| Forest | Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use. |
| Other wooded land | Land not classified as "Forest" spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of 5-10 percent or trees able to reach these thresholds ; or with a combined cover of shrubs bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use. |
| Other land | All land that is not classified as "Forest" or "Other wooded land". |
| ...of which with tree cover (<i>sub-category</i>) | Land considered as "Other land", that is predominantly agricultural or urban lands use and has patches of tree cover that span more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity. It includes bothe forest and non-forest tree species. |
| Inland water bodies | Inland water bodies generally include major rivers, lakes and water reservoirs. |
| Forest expansion | Expansion of forest on land that, until then, was not defined as forest. |
| ...of which afforestation (<i>sub-category</i>) | Establishment of forest through planting and/or deliberate seeding on land that, until then, was not defined as forest. |
| ...of which natural expansion of forest (<i>sub-category</i>) | Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture). |
| Deforestation | The conversion of forest to other land use or the longterm reduction of the tree canopy cover below the minimum 10 percent threshold. |
| ...of which human induced (<i>sub-category</i>) | Human induced conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold. |
| Reforestation | Natural regeneration or re-establishment of forest through planting and/or deliberate seeding on land already in forest land use. |
| ...of which artificial reforestation (<i>sub-category</i>) | Re-establishment of forest through planting and/or deliberate seeding on land already in forest land use. |

1.2 National data

1.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--------------------------------------|---|-----------|--|
| 1 | National Institute of Statistics | Land area Forests; Other wooded land; Inland water bodies, Other land | 1990-2012 | Statistical yearbook Annual statistical reports |

| | | | | |
|---|--|---|-----------|-----|
| 2 | National Institute of Statistics - Annual statistical reports | Afforestation | 1988-2007 | N/A |
| 3 | National Institute of Statistics - Annual statistical reports | Reforestation | 1988-2007 | N/A |
| 4 | Forest Research and Management Planning Institute - National Forest Inventory | Forest, Other wooded land, Other land ...of which with tree cover | 2008-2012 | N/A |

1.2.2 Classification and definitions

| National class | Definition |
|--|---|
| National Forest Fund | All the forests, land destined for afforestation, those serving the needs of the forest cultivation, production or management, ponds, beds of the creeks and other land for forestry destination and unproductive, regardless of ownership. It includes: a) forests ; b) land under regeneration and plantations established for forestry purposes; c) land for afforestation: degraded land and land without trees, established by law to be afforested; d) land that serve the needs of culture: nurseries, greenhouses, orchards and crops parent; e) land that serve the needs of forest production: willow cultures, Christmas trees, fruit and ornamental trees and shrubs; f) land that serve the needs of forest administration: land destined for ensuring game food and production of forage, land for temporary use by forestry staff; g) land occupied by constructions and related courts: administrative premises, cottages, pheasant farms, trout farms, game farms, forest roads and forest transportation means, industrial areas, other technical facilities specific to forest sector; h) ponds, creek beds and unproductive land included into forest management plans; i) windbreaks ; j) Pinus mugo stands; k) afforested pastures with canopy cover more or equal than 40 percent, calculated only for the actual area occupied by forest vegetation |
| Forest | Land spanning at least 0.25 hectares with trees; trees should reach more than 5 meters height at maturity, in normal conditions of vegetation. It includes b) windbreaks; c) Pinus montana alpine shrubs; d) afforested pastures with canopy cover more or equal than 40 percent, calculated only for the actual area occupied by forest vegetation |
| Forest vegetation outside the national forest land | - Forest vegetation located on land outside the national forest land that does not meet one or more criteria for defining forest. It includes the following categories:a) plantations with forest species on agricultural land;b) forest vegetation on pastures with canopy cover less than 40 percent;c) wooded grassland;d) plantations with forest species and trees on the protection areas of hydrotechnics and land reclamation works;e) trees situated along rivers and canals;f) Urban green areas other than those defined as forests;g) dendrologic parks and arboreta, other than those included in forests;h) alignments of trees located along the transport and communication means |
| Total area of the land fund | All lands no matter of destination, of the title based on which they are owned or of public or private sector to which they belong. |

| | |
|------------------|---|
| Waters and ponds | Inland water bodies generally including rivers and lakes. |
|------------------|---|

1.2.3 Original data

| National class | Area 1000 hectares | | | | |
|---|--------------------|----------|----------|----------|----------|
| | 2008 | 2009 | 2010 | 2011 | 2012 |
| Total country area | 23 839.1 | 23 839.1 | 23 839.1 | 23 839.1 | 23 839.1 |
| Forests and other forest vegetation lands | 6728.6 | 6753.0 | 6758.1 | 6759.1 | 6746.9 |
| - of which forest | 6308.9 | 6334.0 | 6353.7 | 6364.9 | 6372.8 |
| National Forest Fund | 6469.9 | 6494.7 | 6515.1 | 6521.8 | 6529.1 |
| Waters and ponds | 849.3 | 833.3 | 833.9 | 822.2 | 836.8 |

| Year | Afforestation (hectares/year) | | Reforestation (hectares/year) | |
|------|----------------------------------|---|----------------------------------|---|
| | Total | ...of which of introduced species (Robinia pseudacacia) | Total | ...of which of introduced species (Robinia pseudacacia) |
| 1989 | 14949 | n.a. | 26460 | n.a. |
| 1990 | 3518 | n.a. | 21971 | n.a. |
| 1991 | 613 | 297 | 15219 | 2086 |
| 1992 | 206 | 48 | 12350 | 1182 |
| 1998 | 560 | 46 | 9946 | 1450 |

| | | | | |
|------|------|------|-------|------|
| 1999 | 767 | 274 | 10829 | 1388 |
| 2000 | 918 | 496 | 12424 | 937 |
| 2001 | 1098 | 671 | 12441 | 781 |
| 2002 | 2903 | 737 | 13545 | 2431 |
| 2003 | 4447 | 611 | 10325 | 2263 |
| 2004 | 4745 | 138 | 9355 | 2366 |
| 2005 | 3456 | 21 | 10931 | 1976 |
| 2006 | 5337 | 899 | 10196 | 2099 |
| 2007 | 1976 | 1033 | 8740 | 51 |
| 2008 | 2056 | n.a. | 21122 | n.a. |
| 2009 | 582 | n.a. | 22270 | n.a. |
| 2010 | 447 | 328 | 23277 | 3489 |
| 2011 | 1168 | 295 | 23832 | 3568 |
| 2012 | 938 | 359 | 24706 | 3578 |

| Cate- gories | Annual forest establishment/loss (000 hectares per year) | | | | | ...of which of introduced species (000 hectares per year) | | | | |
|--|---|-------|-------|-------|-------|--|------|------|------|------|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Forest expansion | 2062 | 583 | 457 | 1168 | 1021 | n.a. | n.a. | 328 | 295 | 372 |
| ...of which affore- station | 2056 | 582 | 447 | 1168 | 938 | n.a. | n.a. | 328 | 295 | 359 |
| ...of which natural expansion of forest | 6 | 1 | 10 | 0 | 83 | n.a. | n.a. | 0 | 0 | 13 |
| Refore- station | 21122 | 22270 | 23277 | 23832 | 24706 | n.a | n.a | 3489 | 3568 | 3578 |

| | | | | | | | | | | |
|------------------------|------|-------|------|-------|-------|------|------|-----|-----|-----|
| ...of which artificial | 9188 | 10380 | 9659 | 10331 | 10088 | n.a. | n.a. | 450 | 386 | 254 |
|------------------------|------|-------|------|-------|-------|------|------|-----|-----|-----|

1.3 Analysis and processing of national data

1.3.1 Adjustment

| Source | Total country area Year 2009 (1000 hectares) | Inland water Year 2009 (1000 hectares) |
|--------------------|--|--|
| National data | 23 839.1 | 833.3 |
| FAOSTAT | 23 839 | 833.0 |
| Calibration factor | 1.000 | 1.000 |

1.3.2 Estimation and forecasting

Forecast estimated is based on data from the latest National Forest Inventory

1.3.3 Reclassification

There is no reclassification

1.4 Data

Table 1a

| Categories | Area (000 hectares) | | | | |
|--|---------------------|------|------|------|------|
| | 1990 | 2000 | 2005 | 2010 | 2015 |
|  Forest | 6371 | 6366 | 6391 | 6515 | 6861 |

| | | | | | | |
|---|------------------------------|----------|----------|----------|----------|----------|
|  | Other wooded land | 314 | 234 | 352 | 404 | 90 |
|  | Other land | 16313 | 16398 | 16255 | 16086 | 16051 |
|  | ... of which with tree cover | N/A | N/A | N/A | N/A | 706 |
|  | Inland water bodies | 841 | 841 | 841 | 834 | 837 |
| | TOTAL | 23839.00 | 23839.00 | 23839.00 | 23839.00 | 23839.00 |

Table 1b

| Categories | | Annual forest establishment / loss (000 hectares per year) | | | | ...of which of introduced species (000 hectares per year) | | | |
|---|--|--|-------|------|-------|---|------|------|------|
| | | 1990 | 2000 | 2005 | 2010 | 1990 | 2000 | 2005 | 2010 |
|  | Forest expansion | N/A | N/A | N/A | 1.06 | N/A | N/A | N/A | 0.33 |
|  | ... of which afforestation | 4.82 | 1.25 | 3.99 | 1.04 | 0.14 | 0.45 | 0.54 | 0.33 |
|  | ... of which natural expansion of forest | N/A | N/A | N/A | 0.02 | N/A | N/A | N/A | 0 |
|  | Deforestation | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
|  | ... of which human induced | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
|  | Reforestation | 19 | 11.84 | 9.91 | 23.04 | N/A | N/A | N/A | 3.55 |
|  | ... of which artificial | 19 | 11.84 | 9.91 | 9.93 | 1.63 | 1.4 | 1.75 | 0.36 |

Tiers

| Category | Tier for status | Tier for reported trend |
|-------------------|-----------------|-------------------------|
| Forest | Tier 3 | Tier 3 |
| Other wooded land | Tier 3 | Tier 3 |
| Forest expansion | Tier 3 | Tier 3 |
| Deforestation | Tier 3 | Tier 3 |
| Reforestation | Tier 3 | Tier 3 |

Tier criteria

| Category | Tier for status | Tier for reported trend |
|----------|-----------------|-------------------------|
|----------|-----------------|-------------------------|

| | | |
|---|--|--|
| <ul style="list-style-type: none"> • Forest • Other wooded land • Afforestation • Reforestation • Natural expansion of forest • Deforestation | <p>Tier 3 : Data sources: Either recent (less than 10 years ago) National Forest Inventory or remote sensing, with ground truthing, or programme for repeated compatible NFIs Tier 2 : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago) Tier 1 : Other</p> | <p>Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other</p> |
|---|--|--|

1.5 Comments

| Category | Comments related to data definitions etc | Comments on the reported trends |
|----------------------------|--|--|
| Forest | Figures for 1990, 2000, 2005 and 2010 represents data from the Statistical yearbook. Information for 2015 is supplied by data from the latest National Forest Inventory (2012) | Trend is explained on the one hand by using data from the new National Forest Inventory (2012) and on the other hand due to the change of forest definition in legislation, as part of the Other wooded land moved to Forest |
| Other wooded land | Figures for 1990, 2000, 2005 and 2010 represents the remainder left after subtracting the “Forest ” from “Forests and other forest vegetation lands” . Information for 2015 is supplied by data from the latest National Forest Inventory (2012) | Trend is explained on the one hand by using data from the new National Forest Inventory (2012) and on the other hand due to the change of forest definition in legislation, as part of the Other wooded land moved to Forest |
| Other land | Data provided stand for the remainder left after subtracting the “Forest”, “Other wooded land” and “Inland water bodies” from “Total for country” | N/A |
| Other land with tree cover | Data for 2015 represent the latest information available - estimated by National Forest Inventory (2012) | N/A |
| Inland water bodies | N/A | N/A |
| Forest expansion | N/A | N/A |
| Deforestation | N/A | N/A |
| Reforestation | N/A | N/A |

Other general comments to the table

In order to avoid distortions, over estimation of the forest area or severe under estimation for other wooded land, due to changes in forest definition and completion of the new National Forest Inventory, the forecast for the year 2015 represents the information from the latest forest inventory (2012), without linear extrapolation based on previous years and considering that respective indicators would not change in the next couple of years.

2. What is the area of natural and planted forest and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

2.1 Categories and definitions

| Term | Definition |
|---|---|
| Naturally regenerated forest | Forest predominantly composed of trees established through natural regeneration. |
| Naturalized introduced species | Other naturally regenerated forest where the tree species are predominantly non-native and do not need human help to reproduce/maintain populations over time. |
| Introduced species | A species, subspecies or lower taxon occurring <i>outside</i> its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans). |
| Category | Definition |
| Primary forest | Naturally regenerated forest of native species where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed. |
| Other naturally regenerated forest | Naturally regenerated forest where there are clearly visible indications of human activities. |
| ...of which of introduced species (<i>sub-category</i>) | Other naturally regenerated forest where the trees are predominantly of introduced species. |
| ...of which naturalized (<i>sub-sub category</i>) | Other naturally regenerated forest where the trees are predominantly of naturalized introduced species. |
| Planted forest | Forest predominantly composed of trees established through planting and/or deliberate seeding. |
| ...of which of introduced species (<i>sub-category</i>) | Planted forest where the planted/seeded trees are predominantly of introduced species. |
| Mangroves | Area of forest and other wooded land with mangrove vegetation. |
| ...of which planted (<i>sub-category</i>) | Mangroves predominantly composed of trees established through planting. |

2.2 National data

2.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|---|----------------|-------|---------------------|
| 1 | “Inventory and strategy for sustainable management and protection of virgin forests in Romania”(PINMATRA) | Primary forest | 2001 | N/A |

| | | | | |
|---|---|---|------|-----|
| 2 | Forest Research and Management Planning Institute - National Forest Inventory | Primary forest; Other naturally regenerated forest; ...of which of introduced species; ...of which naturalized; Planted forest; ...of which of introduced species | 2012 | N/A |
| 3 | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A |

2.2.2 Classification and definitions

| National class | Definition |
|--|--|
| Stands of “Natural fundamental type” (assimilated to “Other naturally regenerated forest”) | Forests with tree composition corresponding to natural type, naturally regenerated, but subject to sustainable forest management |
| Derived Stands (assimilated to “Other naturally regenerated forest”) | Stands naturally regenerated by seeds or shoots but having in composition, in different proportions, species that differ from the natural type of forest |
| Artificial stands (assimilated to “Planted forest”) | Stands artificially regenerated with species corresponding to natural type of forests or other species. |
| N/A | N/A |

2.2.3 Original data

| Categories | Forest area (000 hectares) |
|------------------------------------|-------------------------------|
| | 2012 |
| Primary forest | 283 |
| Other naturally regenerated forest | 6 009 |
| ...of which of introduced species | 376 |
| ...of which naturalized | 251 |
| Planted forest | 569 |
| ...of which of introduced species | 49 |
| TOTAL | 6 861 |

2.3 Analysis and processing of national data

2.3.1 Adjustment

2.3.2 Estimation and forecasting

Forest area for 2010 which has been forecasted in the previous report has been replaced with official records for respective year.

The estimation for 2015 is supplied by the National Forest Inventory.

2.3.3 Reclassification

2.4 Data

Table 2a

| Categories | | Forest area (000 hectares) | | | | |
|---|------------------------------------|----------------------------|------|------|------|------|
| | | 1990 | 2000 | 2005 | 2010 | 2015 |
|  | Primary forest | 263 | 263 | 264 | 269 | 283 |
|  | Other naturally regenerated forest | 5580 | 5575 | 5597 | 5706 | 6009 |
|  | ... of which of introduced species | 349 | 349 | 350 | 357 | 376 |
|  | ... of which naturalized | 233 | 233 | 234 | 238 | 251 |
|  | Planted forest | 528 | 528 | 530 | 540 | 569 |

| | | | | | | |
|---|------------------------------------|---------|---------|---------|---------|---------|
|  | ... of which of introduced species | 46 | 45 | 46 | 47 | 49 |
| TOTAL | | 6371.00 | 6366.00 | 6391.00 | 6515.00 | 6861.00 |

Table 2b

| Primary forest converted to (000 ha) | | | | | | | | |
|--------------------------------------|---------|------------|----------------------------|---------|------------|----------------------------|---------|------------|
| 1990-2000 | | | 2000-2010 | | | 2010-2015 | | |
| Other natural regeneration | Planted | Other land | Other natural regeneration | Planted | Other land | Other natural regeneration | Planted | Other land |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

Table 2c

| Categories | Area (000 hectares) | | | | |
|----------------------------|---------------------|------|------|------|------|
| | 1990 | 2000 | 2005 | 2010 | 2015 |
| Mangroves (forest and OWL) | 0 | 0 | 0 | 0 | 0 |
| ... of which planted | 0 | 0 | 0 | 0 | 0 |

Tiers

| Category | Tier for status | Tier for reported trend |
|------------------------------------|-----------------|-------------------------|
| Primary forest | Tier 1 | Tier 1 |
| Other naturally regenerated forest | Tier 1 | Tier 1 |
| Planted forest | Tier 2 | Tier 1 |
| Mangroves | Tier 1 | Tier 1 |

Tier Criteria

| Category | Tier for status | Tier for reported trend |
|--|--|--|
| Primary forest/Other naturally regenerated forest/Planted forest | <p>Tier 3 : Data sources: Recent (less than 10 years) National Forest Inventory or remote sensing with ground truthing or data provided by official agencies or programme for repeated compatible NFIs</p> <p>Tier 2 : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years)</p> <p>Tier 1 : Other</p> | <p>Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p>Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p>Tier 1 : Other</p> |

2.5 Comments

| Category | Comments related to data definitions etc | Comments on reported trend |
|----------|--|----------------------------|
|----------|--|----------------------------|

| | | |
|-------------------------------------|--|-----|
| Primary forest | Data for 1990, 2000, 2005 and 2010 is provided further to the study “Inventory and strategy for sustainable management and protection of virgin forests in Romania”(PINMATRA/2001). Data for 2015 is from the new National Forest Inventory | N/A |
| Other naturally regenerating forest | Considering that no significant changes occurred in the last decades, data for 1990, 2000, 2005 and 2010 was recalculated based on information provided by the new National Forest Inventory, as more accurate, adjusted to the total forest area correspondent to respective years. Data for 2015 is from the new National Forest Inventory | N/A |
| Planted forest | Considering that no significant changes occurred in the last decades, data for 1990, 2000, 2005 and 2010 was recalculated based on information provided by the new National Forest Inventory, as more accurate, adjusted to the total forest area correspondent to respective years. Data for 2015 is from the new National Forest Inventory | N/A |
| Mangroves | N/A | N/A |

Other general comments to the table

N/A

3. What are the stocks and growth rates of the forests and how have they changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

3.1 Categories and definitions

| Category | Definition |
|--------------------------------|--|
| Growing stock | Volume over bark of all living trees with a minimum diameter of 10 cm at breast height (or above buttress if these are higher). Includes the stem from ground level up to a top diameter of 0 cm, excluding branches. |
| Net Annual Increment (NAI) | Average annual volume of gross increment over the given reference period less that of natural losses on all trees, measured to minimum diameters as defined for "Growing stock". |
| Above-ground biomass | All living biomass above the soil including stem stump branches bark seeds and foliage. |
| Below-ground biomass | All biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter. |
| Dead wood | All non-living woody biomass not contained in the litter either standing lying on the ground or in the soil. Dead wood includes wood lying on the surface dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country. |
| Carbon in above-ground biomass | Carbon in all living biomass above the soil including stem stump branches bark seeds and foliage. |
| Carbon in below-ground biomass | Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter. |
| Carbon in dead wood | Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country. |
| Carbon in litter | Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm) lying dead in various states of decomposition above the mineral or organic soil. |
| Soil carbon | Organic carbon in mineral and organic soils (including peat) to a soil depth of 30 cm. |

3.2 National data

3.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|---|--------------------------|-----------|----------------------|
| 1 | Forest Research and Management Planning Institute - National Forest inventory | Growing stock, biomass | 1985 | N/A |
| 2 | National Institute of Statistics | Surface/species, biomass | 1990-2012 | N/A |
| 3 | National Institute of Statistics | Forest area | 1990-2012 | Statistical yearbook |
| 4 | Records from the Forest Research and Management Planning Institute | Forest soil distribution | 1990-2012 | N/A |

| | | | | |
|---|---|------------------------|-----------|-----|
| 5 | Forest Research and Management Planning Institute - National Forest Inventory | Growing stock, biomass | 2012 | N/A |
| 6 | IPCC good practice guidance for LULUCF | Biomass | 2012 | N/A |
| 7 | Giurgiu V, Decei I, Drăghiciu D, Dendrometric Methods and Tables, (2004), „Ceres ” Publishing House | Biomass | 1990-2012 | N/A |

3.2.2 Classification and definitions

| National class | Definition |
|----------------|------------|
| N/A | N/A |

3.2.3 Original data

| | |
|--------------------------|---|
| Categories | Growing stock (National Forest Inventory 1985) |
| Growing stock (mill. m3) | 1341.4 |
| Forest area (1000 ha) | 6343.1 |
| Category | Growing stock (National Forest Inventory 2012) |
| Growing stock (mill. m3) | 1930.4 |
| Year 1985 | |

| <i>Scientific name</i> | Common name | <i>Growing stock million m³</i> |
|----------------------------|--------------------|--|
| <i>Fagus sylvatica</i> | Beech | 472.6656 |
| <i>Picea abies</i> | Norway spruce | 386.6146 |
| <i>Abies alba</i> | Silver fir | 123.6708 |
| <i>Quercus petraea</i> | Sessile oak | 102.598 |
| <i>Quercus robur</i> | Oak | 22.4466 |
| <i>Tilia sp.</i> | Lime | 19.1406 |
| <i>Populus sp.</i> | Poplars | 16.6992 |
| <i>Robinia pseudacacia</i> | Black locust | 10.8410 |
| <i>Pinus sylvestris</i> | Red pine | 7.2248 |
| <i>Fraxinus excelsior</i> | Ash | 5.8320 |
| <i>Others</i> | | 173.6670 |
| Total | | 1341.4002 |

| | Total above ground volume including branches (AGV) (million cubic meters over bark) | | | | |
|-----------------------------|--|-------------|-------------|-------------|-------------|
| | 1990 | 2000 | 2005 | 2010 | 2015 |
| | 1347.5 | 1346.4 | 1351.7 | 1377.9 | 2170.8 |
| ... of which coniferous | 404.3 | 403.9 | 405.5 | 421.6 | 669.4 |
| ... of which broadleaved | 943.2 | 942.5 | 946.2 | 956.3 | 1501.4 |

3.3 Analysis and processing of national data

3.3.1 Adjustment

The growing stock was assessed in the Forest Inventory in 1985. The estimation for the following years, 1990, 2000, 2005 and 2010 was done using the relationship between forest area and the growing stock by unit of area (211.5 m³ per hectare), adjusting the growing stock with the forest area variation.

All calculations for 2010 have been modified as result of replacing forest area estimated for 2010 in the previous report, with the official records from statistic reports.

The estimation for 2015 is done by the National Forest Inventory -2012

No calibration is necessary.

3.3.2 Estimation and forecasting

For years 1990, 2000, 2005 and 2010 the value of growing stock is the result of estimation, under the variation of forest area, reported at 1985 values.

Growing stock for 2010 was calculated again, based on the forest area for 2010 from official records for respective year.

Growing stock composition

| <i>Scientific name</i> | Common name | <i>Growing stock million m³</i> | <i>% of total growing stock</i> |
|----------------------------|--------------------|--|---------------------------------|
| <i>Fagus sylvatica</i> | Beech | 472.6656 | 35.236730 |
| <i>Picea abies</i> | Norway spruce | 386.6146 | 28.821720 |
| <i>Abies alba</i> | Silver fir | 123.6708 | 9.219530 |
| <i>Quercus petraea</i> | Sessile oak | 102.598 | 7.648575 |
| <i>Quercus robur</i> | Oak | 22.4466 | 1.673371 |
| <i>Tilia sp.</i> | Lime | 19.1406 | 1.426912 |
| <i>Populus sp.</i> | Poplars | 16.6992 | 1.244908 |
| <i>Robinia pseudacacia</i> | Black locust | 10.841 | 0.808185 |
| <i>Pinus sylvestris</i> | Red pine | 7.2248 | 0.538601 |

| | | | |
|---------------------------|-----|------------------|--------------|
| <i>Fraxinus excelsior</i> | Ash | 5.832 | 0.434770 |
| <i>Others</i> | | 173.667 | 12.946700 |
| Total | | 1341.4002 | 100,0 |

The Above-ground biomass has been calculated using formula

$AGB = AGV \times WD$ (apart by coniferous and broadleaved)

Where:

AGB = Above-ground biomass (million tonnes)

AGV = Total above ground volume including branches (million cubic meters over bark)

WD = Basic wood density (dry weight / green volume expressed in tonnes/m³) from IPCC good practice guidance for LULUCF

WD = 0.48 for coniferous

WD = 0.52 for broadleaved

| | Total above ground volume including branches (AGV) (million cubic meters over bark) | | | | | WD | Above-ground biomass (AGB) (million tonnes) | | | | | |
|-----------------------------------|--|--------|--------|--------|--------|------|--|-------|-------|-------|-------|--------|
| | 1990 | 2000 | 2005 | 2010 | 2015 | | 1990 | 2000 | 2005 | 2010 | 2015 | |
| | 1347.5 | 1346.4 | 1351.7 | 1377.9 | 2170.8 | | | | | | | |
| ... of which coniferous | 404.3 | 403.9 | 405.5 | 421.6 | 669.4 | 0.48 | 194.1 | 193.9 | 194.6 | 202.4 | 321.3 | |
| ... of which broad-leaved | 943.2 | 942.5 | 946.2 | 956.3 | 1501.4 | 0.52 | 490.5 | 490.1 | 492.0 | 497.3 | 780.7 | |
| TOTAL ABOVE-GROUND BIOMASS | | | | | | | | 684.5 | 684.0 | 686.7 | 699.6 | 1102.0 |

The Below-ground biomass has been calculated using formula:

$BGB = AGV \times R \times WD$ (apart by coniferous and broadleaved)

Where:

BGB = Bellow-ground biomass(million tonnes)

AGV = Total above ground volume including branches (million cubic meters over bark)

R = Root-shoot ratio at national level (Below-ground wood volume / Above-ground wood volume)

WD = Basic wood density (dry weight / green volume expressed in tonnes/m³) from IPCC good practice guidance for LULUCF

WD = 0.48 for coniferous

WD = 0.52 for broadleaved

| | Volume (million cubic meters over bark) | | | | | | | | | | |
|---------------------------|--|--------|--------|--------|--------|------|--|-------|-------|-------|-------|
| | Total above ground volume including branches (AGV) | | | | | R | Total bellow ground volume (BGM=AGV x R) | | | | |
| | 1990 | 2000 | 2005 | 2010 | 2015 | | 1990 | 2000 | 2005 | 2010 | 2015 |
| | | 1347.5 | 1346.4 | 1351.7 | 1377.9 | | 2170.8 | | 256.0 | 255.8 | 256.8 |
| ... of which coniferous | 404.3 | 403.9 | 405.5 | 421.6 | 669.4 | 0.19 | 76.8 | 76.7 | 77.0 | 80.1 | 127.2 |
| ... of which broad-leaved | 943.2 | 942.5 | 946.2 | 956.3 | 1501.4 | | 179.2 | 179.1 | 179.8 | 181.7 | 285.3 |

| | Total bellow ground volume (million cubic meters over bark) | | | | | WD | Bellow-ground biomass (BGM) (million tonnes) | | | | | |
|----------------------------|---|-------|-------|-------|-------|------|--|-------|-------|-------|-------|-------|
| | 1990 | 2000 | 2005 | 2010 | 2015 | | 1990 | 2000 | 2005 | 2010 | 2015 | |
| ... of which coniferous | 76.8 | 76.7 | 77.0 | 80.1 | 127.2 | 0.48 | 36.9 | 36.8 | 37.0 | 38.5 | 61.0 | |
| ... of which broad-leaved | 179.2 | 179.1 | 179.8 | 181.7 | 285.3 | 0.52 | 93.2 | 93.1 | 93.5 | 94.5 | 148.3 | |
| TOTAL BELOW-GROUND BIOMASS | | | | | | | | 130.1 | 130.0 | 130.5 | 132.9 | 209.4 |

Data on biomass were multiplied by a carbon fraction of 0.47.

Regarding the carbon in litter, due to transition climate of Romania, temperate continental, with influences of altitude (Carpathian Mountains) and latitude (5°), an average has been used for the default values for litter and dead wood from Table 5.9 - for broadleaved and coniferous, being difficult to consider a certain climate of those indicated in the table. Thus 24 was used for coniferous (located mostly on mountain and hilly areas) and 22 for broadleaved.

| | Default value for Carbon in litter | Forest | | Other wooded land | |
|---------------------------------------|------------------------------------|------------------|------------------------|-------------------|------------------------|
| | | Area thousand ha | Carbon in litter total | Area thousand ha | Carbon in litter total |
| 2015 | | | | | |
| TOTAL, of which | | 6861 | | 90 | |
| Coniferous (27,3 %) | 24 | 1873.05 | 44953.27 | 24.3 | 583.2 |
| Broadleaved (72,7%) | 22 | 4987.95 | 109734.8 | 65.7 | 1445.4 |
| TOTAL carbon (thousand metric tonnes) | | 6861 | 154688.1 | 90 | 2028.6 |
| TOTAL carbon (million metric tonnes) | | | 154.69 | | 2.03 |

Concerning the soil carbon An analysis of the soil types spreading and their weight in Romania has been done.

Climate influence and relief conditions were considered using the aridity indexes Emm. De Martonne and Palfay. This determined the choice of the SOC_{REF} from the table 5.10 in the GUIDELINES FOR COUNTRY REPORTING TO FRA 2010/Guide for country reporting for FRA 2015, both for “Cold temperate, moist” and “Warm temperate, dry” climatic regions, for appropriate soil categories.

| Climate region | SOC _{REF} from the table 5.10 in the GUIDELINES ... Working Paper 143 | Soils proportion % | Soil area by climate region & by years (1000 hectares) & Carbon content (Million metric tonnes) | | | |
|--------------------------------|--|--------------------|---|---------|---------|---------|
| | | | 1990 | 2000 | 2005 | 2010 |
| Forest area | | | 6371 | 6366 | 6391 | 6511 |
| Cold temperate, moist | 95 | 83 | 502.353 | 501.959 | 503.930 | 513.392 |
| Cold temperate, moist | 115 | 5 | 36.633 | 36.605 | 36.748 | 37.438 |
| Cold temperate, moist | 130 | 2 | 16.565 | 16.552 | 16.617 | 16.929 |
| Warm temperate, dry | 19 | 1 | 1.210 | 1.210 | 1.214 | 1.237 |
| Warm temperate, dry | 38 | 9 | 21.789 | 21.772 | 21.857 | 22.268 |
| TOTAL SOIL CARBON STOCK | | 100 | 578.551 | 578.096 | 580.367 | 591.264 |

3.3.3 Reclassification

3.4 Data

Table 3a

| Category | | Growing stock volume (million m ³ over bark) | | | | | | | | | |
|---|--------------------------|---|--------|--------|--------|--------|-------------------|------|------|------|------|
| | | Forest | | | | | Other wooded land | | | | |
| | | 1990 | 2000 | 2005 | 2010 | 2015 | 1990 | 2000 | 2005 | 2010 | 2015 |
|  | Total growing stock | 1347.5 | 1346.4 | 1351.7 | 1377.9 | 1930.4 | N/A | N/A | N/A | N/A | 4.9 |
|  | ... of which coniferous | 404.3 | 403.9 | 405.5 | 421.6 | 609.2 | N/A | N/A | N/A | N/A | 0.4 |
|  | ... of which broadleaved | 943.2 | 942.5 | 946.2 | 956.3 | 1321.2 | N/A | N/A | N/A | N/A | 4.5 |

Table 3b

| Category/Species name | | | Growing stock in forest (million cubic meters) | | | |
|-----------------------|---------------------|---------------|--|-------|-------|-------|
| Rank | Scientific name | Common name | 1990 | 2000 | 2005 | 2010 |
| 1 st | Fagus sylvatica | Beech | 474.8 | 474.4 | 476.3 | 485.5 |
| 2 nd | Picea abies | Norway spruce | 388.4 | 388.1 | 389.6 | 397.1 |
| 3 rd | Abies alba | Silver fir | 124.2 | 124.1 | 124.6 | 127 |
| 4 th | Quercus petraea | Sessile oak | 103.1 | 103 | 103.4 | 105.4 |
| 5 th | Quercus robur | Oak | 22.5 | 22.5 | 22.6 | 23.1 |
| 6 th | Tilia sp. | Lime | 19.2 | 19.2 | 19.3 | 19.7 |
| 7 th | Populus sp. | Poplars | 16.8 | 16.8 | 16.8 | 17.2 |
| 8 th | Robinia pseudacacia | Black locust | 10.9 | 10.9 | 10.9 | 11.1 |
| 9 th | Pinus sylvestris | Red pine | 7.3 | 7.3 | 7.3 | 7.4 |
| 10 th | Fraxinus excelsior | Ash | 5.9 | 5.9 | 5.9 | 6 |
| Remaining | | | 174.5 | 174.3 | 175 | 178.4 |

| | | | | | | |
|-------|--|--|---------|---------|---------|---------|
| TOTAL | | | 1347.60 | 1346.50 | 1351.70 | 1377.90 |
|-------|--|--|---------|---------|---------|---------|

THE PRE-FILLED VALUES FOR GROWING STOCK REFER TO THE FOLLOWING THRESHOLD VALUES (SEE TABLE BELOW)

| Item | Value | Complementary information |
|---|-------|--------------------------------------|
| Minimum diameter (cm) at breast height of trees included in growing stock (X) | 6 | |
| Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y) | 0 | |
| Minimum diameter (cm) of branches included in growing stock (W) | 5cm | Not applicable for the growing stock |
| Volume refers to above ground (AG) or above stump (AS) | AS | |

PLEASE NOTE THAT THE DEFINITION OF GROWING STOCK HAS CHANGED AND SHOULD BE REPORTED AS GROWING STOCK DBH 10 CM INCLUDING THE STEM FROM GROUND LEVEL UP TO A DIAMETER OF 0 CM, EXCLUDING BRANCHES.

Table 3c

| Category | | Net annual increment (m ³ per hectare and year) | | | | |
|---|--------------------------|--|------|------|------|------|
| | | Forest | | | | |
| | | 1990 | 2000 | 2005 | 2010 | 2015 |
|  | Net annual increment | N/A | N/A | N/A | 8.6 | 8.7 |
|  | ... of which coniferous | N/A | N/A | N/A | 2.7 | 2.6 |
|  | ... of which broadleaved | N/A | N/A | N/A | 5.9 | 6 |

Table 3d

| Category | | Biomass (million metric tonnes oven-dry weight) | | | | | | | | | |
|---|----------------------|---|------|------|------|------|-------------------|------|------|------|------|
| | | Forest | | | | | Other wooded land | | | | |
| | | 1990 | 2000 | 2005 | 2010 | 2015 | 1990 | 2000 | 2005 | 2010 | 2015 |
|  | Above ground biomass | 685 | 684 | 687 | 700 | 1102 | N/A | N/A | N/A | N/A | 3.5 |
|  | Below ground biomass | 130 | 130 | 131 | 133 | 209 | N/A | N/A | N/A | N/A | 0.9 |
|  | Dead wood | N/A | N/A | N/A | N/A | 3 | N/A | N/A | N/A | N/A | 0 |

| | | | | | | | | | | |
|-------|--------|--------|--------|--------|---------|-----|-----|-----|-----|------|
| TOTAL | 815.00 | 814.00 | 818.00 | 833.00 | 1314.00 | .00 | .00 | .00 | .00 | 4.40 |
|-------|--------|--------|--------|--------|---------|-----|-----|-----|-----|------|

Table 3e

| Category | | Carbon (Million metric tonnes) | | | | | | | | | |
|---|--------------------------------------|--------------------------------|---------|---------|---------|---------|-------------------|------|------|------|------|
| | | Forest | | | | | Other wooded land | | | | |
| | | 1990 | 2000 | 2005 | 2010 | 2015 | 1990 | 2000 | 2005 | 2010 | 2015 |
|  | Carbon in above ground biomass | 321.71 | 321.48 | 322.75 | 328.81 | 517.94 | N/A | N/A | N/A | N/A | 1.7 |
|  | Carbon in below ground biomass | 61.15 | 61.1 | 61.33 | 62.46 | 98.42 | N/A | N/A | N/A | N/A | 0.4 |
|  | <i>Subtotal Living biomass</i> | 382.86 | 382.58 | 384.08 | 391.27 | 616.36 | N/A | N/A | N/A | N/A | 2.1 |
|  | Carbon in dead wood | N/A | N/A | N/A | N/A | 1.5 | N/A | N/A | N/A | N/A | 0 |
|  | Carbon in litter | 144.02 | 143.76 | 144.35 | 147.31 | 154.7 | N/A | N/A | N/A | N/A | 2 |
|  | <i>Subtotal Dead wood and litter</i> | N/A | N/A | N/A | N/A | 156.2 | N/A | N/A | N/A | N/A | 2 |
|  | Soil carbon | 578.55 | 578.1 | 580.37 | 591.24 | 608.48 | N/A | N/A | N/A | N/A | N/A |
| TOTAL | | 1105.43 | 1104.44 | 1108.80 | 1129.82 | 1381.04 | .00 | .00 | .00 | .00 | 4.10 |

Tiers

| Variable/category | Tier for status | Tier for trend |
|--------------------------------|-----------------|----------------|
| Total growing stock | Tier 2 | Tier 2 |
| Net annual increment | Tier 2 | Tier 2 |
| Above ground biomass | Tier 1 | Tier 1 |
| Below ground biomass | Tier 1 | Tier 1 |
| Dead wood | Tier 1 | Tier 1 |
| Carbon in above-ground biomass | Tier 1 | Tier 1 |
| Carbon in below ground biomass | Tier 1 | Tier 1 |

| | | |
|--------------------------------|--------|--------|
| Carbon in dead wood and litter | Tier 1 | Tier 1 |
| Soil carbon | Tier 1 | N/A |

Tier criteria

| Category | Tier for status | Tier for reported trend |
|---|---|---|
| Total growing stock | Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources | Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other |
| Net annual increment | Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other | Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other |
| Biomass | Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |
| <ul style="list-style-type: none"> • Carbon in above ground biomass • Carbon in below ground biomass • Carbon in dead wood and litter • Soil carbon | Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied Tier 2: Application of country specific national or sub-national biomass conversion factors form from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |

3.5 Comments on growing stock biomass and carbon

| Category | Comments related to data definitions etc | Comments on the reported trend |
|---|--|--|
| Total growing stock | Data for 2010 was calculated again, based on the forest area for 2010 from official records for respective year. Data for 2015 is supplied by the National Forest Inventory | The NFI preliminary information indicates a growing stock higher than previous assessments, because of the new statistical inventory method used for assessment. |
| Growing stock of broadleaved coniferous | The growing stock of broadleaved / coniferous for 1990, 2000, 2005 and 2010 was estimated according to the percentage of respective categories from the total forest area Data for 2015 is supplied by the National Forest Inventory | The NFI preliminary information indicates a growing stock higher than previous assessments, because of the new statistical inventory method used for assessment. |

| | | |
|--------------------------------|--|-----|
| Growing stock composition | N/A | N/A |
| Net annual increment | N/A | N/A |
| Above-ground biomass | Data for 2010 was calculated again, based on the forest area for 2010 from official records for respective year. Data for 2015 is supplied by the National Forest Inventory. | N/A |
| Below-ground biomass | Data for 2010 was calculated again, based on the forest area for 2010 from official records for respective year. Data for 2015 is supplied by the National Forest Inventory. | N/A |
| Dead wood | N/A | N/A |
| Carbon in above-ground biomass | Data for 2010 is calculated again, based on the forest area for 2010 from official records for respective year. | N/A |
| Carbon in below-ground biomass | Data for 2010 is calculated again, based on the forest area for 2010 from official records for respective year. | N/A |
| Carbon in dead wood | N/A | N/A |
| Carbon in litter | Data for 2010 is calculated again, based on the forest area for 2010 from official records for respective year. | N/A |
| Soil carbon | Data for 2010 is calculated again, based on the forest area for 2010 from official records for respective year. | N/A |

Other general comments to the table

The carbon stock has been calculated converting the Biomass stock, multiplied by the carbon fraction. The value for default global carbon fraction used is 0.47.

4. What is the status of forest production and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

4.1 Categories and definitions

| Term | Definition |
|--------------------------------|---|
| Primary designated function | The primary function or management objective assigned to a management unit either by legal prescription documented decision of the landowner/manager or evidence provided by documented studies of forest management practices and customary use. |
| Non wood forest product (NWFP) | Goods derived from forests that are tangible and physical objects of biological origin other than wood. |
| Commercial value of NWFP | For the purpose of this table, value is defined as the commercial market value at the forest gate. |
| Category | Definition |
| Production forest | Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products. |
| Multiple use forest | Forest area designated for more than one purpose and where none of these alone is considered as the predominant designated function. |
| Total wood removals | The total of industrial round wood removals and woodfuel removals. |
| ...of which woodfuel | The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use. |

4.2 National data

4.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--|---|------------------|---|
| 1 | Ministry of Silviculture, Forest inventory 1985 | Protective functions; Productive functions | 1985 | Only for grouping in wood productive and protective functions |
| 2 | Ministry of Agriculture, Forests and Rural Development, 2003, Forest statistics report, Annual statistical reports | Protective functions; Productive functions | 1990, 2000, 2003 | Only for grouping in wood productive and protective functions |
| 3 | Forest Research and Management Planning Institute - National Forest Inventory | Protective functions; Productive functions | 2012 | N/A |
| 4 | National Institute of Statistics, Annual statistical reports | Non wood forest product (NWFP) | 2010 | N/A |

| | | | | |
|---|--|--------------------------|------|-----|
| 5 | National Institute of Statistics, Annual statistical reports | Commercial value of NWFP | 2010 | N/A |
|---|--|--------------------------|------|-----|

4.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Group I | Forest vegetation with special protection function (divided in 5 sub-groups with several categories each) |
| Group II | Forest vegetation designated primarily for production of wood or game management |
| Protection of water | One of the subgroups of Group I - Forests classified in 8 different categories designated primarily for protection of water |
| Protection of soil | One of the subgroups of Group I - Forests classified in 11 different categories designated primarily for protection of soil |
| For scientific interest and forest genetic resources preservation | One of the subgroups of Group I - Forests classified in 14 different categories designated primarily for forest genetic resources and nature conservation |
| Recreation | One of the subgroups of Group I - Forests classified in 6 different categories designated primarily for recreation |
| Protection against climatic and industrial damaging factors | One of the subgroups of Group I - Forests classified in 12 different categories designated primarily to mitigate climatic influence |

4.2.3 Original data

| General classification with primary function | | | | |
|--|--------------------|--------|------|------|
| National class | Area 1000 hectares | | | |
| | 1990 | 2000 | 2005 | 2010 |
| Protection | 2185 | 3323 | 3406 | 3472 |
| Production | 4186 | 3043 | 2985 | 3043 |
| Total forest land | 6371 | 6366.0 | 6391 | 6515 |

| No | Name of product | Commercial value of NWFP removals in 2010 (value 1000 local currency) |
|----|-----------------|--|
| 1. | Berries | 22745.1 |

| | | |
|----|---|---------|
| 1. | Forest and ornamental saplings | 20085.4 |
| 1. | Game products | 7195.8 |
| 1. | Other non-wood forests products | 2635.5 |
| 1. | Edible mushrooms from spontaneous flora | 2225.7 |
| 1. | Christmas trees | 1620.2 |
| 1. | Forest seeds | 534.5 |
| 1. | Ornamental trees and shrubs | 343.2 |

4.3 Analysis and processing of national data

4.3.1 Adjustment

4.3.2 Estimation and forecasting

| 1000 ha | | | |
|---|-------|-------------------|------|
| National categories for protective function | 1990 | 2000 ¹ | 2015 |
| Protection of water | 699.3 | 1 052.0 | 1070 |
| Protection of soils | 939.6 | 1 433.0 | 1420 |
| Protection against climatic and industrial damaging factors | 109.3 | 166.5 | 170 |
| Social function | 240.4 | 364.3 | 380 |
| Scientific and biodiversity conservation | 196.7 | 308.0 | 320 |

| | | | |
|---|---------------|---------------|---------------|
| ...of which protected areas (subord. to biodiv. conserv.) | (87.4) | (127.7) | 130 |
| Total forest land with protective functions | 2185.3 | 3323.6 | 3360.0 |

¹ Data provided is from the study carried out by the Forest Research and Management Institute in 2000, based on the functional zoning included in the forest management plans, in force in 1999

For the years 2005 and 2010, as there is no updated information, the area is calculated applying the percentage of the different protection categories from the study, to the forest area from respective years.

4.3.3 Reclassification

4.4 Data

Table 4a

| Categories | | Forest area (000 hectares) | | | | |
|---|---------------------|----------------------------|------|------|------|------|
| | | 1990 | 2000 | 2005 | 2010 | 2015 |
|  | Production forest | 4186 | 3043 | 2985 | 3043 | 3501 |
|  | Multiple use forest | 2185 | 3323 | 3406 | 3472 | 3360 |

Table 4b

| Rank | Name of product | Key species | Commercial value of NWFP removals 2010 (value 1000 local currency) | NWFP category |
|------|--------------------------------|--|--|---------------|
| 1 st | Berries | Rubus idaeus; Vaccinium myrtillus, Rubus caesius | 22745.1 | 1 |
| 2 nd | Forest and ornamental saplings | Forest species | 20085.4 | 6 |

| | | | | |
|-------|---|---|----------|-----|
| 3 rd | Gameproducts | Sus scrofa, Capreolus capreolus, Cervus elaphus, Dama dama, Lepus europaeus, Phasianus colchicus | 7195.8 | 9 |
| 4 th | Othernon-woodforestsproducts | Sambucus nigra, Tilia sp., Crataegus monogyna, Betula pendula, Vaccinium myrtillus (leaves), Urticadioica, Hypericum perforatum, Achillea millefolium, Rubus idaeus, Plantago sp., Robinia pseudacacia, Equisetum arvense, Primula officinalis, Matricaria chamonilla, Hypericum perforatum etc. | 2635.5 | 1 |
| 5 th | Edible mushrooms from spontaneous flora | Boletus edulis, Armillaria melea, Cantharellus cibarius | 2225.7 | 1 |
| 6 th | Christmastrees | Abies sp., Picea sp. | 1620.2 | 6 |
| 7 th | Forestseeds | Spruce, fir, larch, pine, acacia, lime, ash, sycamore, maple, cherry, oaks, beech | 534.5 | 8 |
| 8 th | Ornamental trees and shrubs | Abies sp., Acer sp., Albizzia sp., Artemisia sp., Berberis sp., Betula sp., Buxus sp., Caragana sp., Catalpa sp., Celtis sp., Chaenomeles sp., Chamaecyparis sp., Cornus sp., Crataegus sp., Philadelphus sp., Forsythia sp., Lonicera sp., Juniperus sp., Aesculus sp., Thuja sp., Picea sp., Hibiscus sp., Magnolia sp., Spiraea sp., Ligustrum sp., Viburnum sp. | 343.2 | 6 |
| 9 th | N/A | N/A | N/A | N/A |
| 10 th | N/A | N/A | N/A | N/A |
| TOTAL | | | 57385.40 | |

2010

| Name of local currency | Leu |
|--|-----|
| Category | |
| Plant products / raw material | |
| 1 Food | |
| 2 Fodder | |
| 3 Raw material for medicine and aromatic products | |
| 4 Raw material for colorants and dyes | |
| 5 Raw material for utensils handicrafts construction | |
| 6 Ornamental plants | |
| 7 Exudates | |
| 8 Other plant products | |
| Animal products / raw material | |
| 9 Living animals | |
| 10 Hides skins and trophies | |
| 11 Wild honey and beeswax | |
| 12 Wild meat | |
| 13 Raw material for medicine | |
| 14 Raw material for colorants | |
| 15 Other edible animal products | |
| 16 Other non-edible animal products | |

Table 4c Pre-filled data from FAOSTAT

| Year | FRA 2015 category (1000 m ³ u.b.) | |
|------|--|----------------------|
| | Total wood removals | ...of which woodfuel |
| 1990 | 12608 | 1883 |
| 1991 | 12961 | 2000 |
| 1992 | 12440 | 2000 |

| | | |
|------|---------|---------|
| 1993 | 8840 | 1100 |
| 1994 | 11925 | 2285 |
| 1995 | 12178 | 2163 |
| 1996 | 12250 | 2809 |
| 1997 | 13529 | 3692 |
| 1998 | 11649 | 3020 |
| 1999 | 12703.5 | 3220 |
| 2000 | 13148.2 | 3032.2 |
| 2001 | 12424 | 2618 |
| 2002 | 15154 | 3062 |
| 2003 | 15440 | 2903 |
| 2004 | 15809 | 3015 |
| 2005 | 14501 | 2959 |
| 2006 | 13970 | 4516 |
| 2007 | 15341 | 3769 |
| 2008 | 13667 | 4149.7 |
| 2009 | 12556.5 | 3969.2 |
| 2010 | 13111.6 | 2563.59 |
| 2011 | 14358.6 | 4014.18 |

Tiers

| Category | Tier for status | Tier for reported trend |
|---------------------|-----------------|-------------------------|
| Production forest | Tier 2 | Tier 2 |
| Multiple use forest | Tier 2 | Tier 2 |

Tier Criteria

| Category | Tier for status | Tier for reported trend |
|----------|-----------------|-------------------------|
|----------|-----------------|-------------------------|

| | | |
|---------------------------------------|--|---|
| Production forest Multiple use forest | Tier 3: Updated including field verifications national forest maps including functions Tier 2: Forest maps older than 6 years including forest functions Tier 1: Other | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |
|---------------------------------------|--|---|

4.5 Comments

| Category | Comments related to data definitions etc | Comments on the reported trend |
|--------------------------|--|--------------------------------|
| Production forest | Forest vegetation designated primarily for production | N/A |
| Multiple use forest | Forest vegetation designated primarily for protection | N/A |
| Total wood removals | N/A | N/A |
| Commercial value of NWFP | Reported figures are based on selling prices and could include some possible transport, handling and/or processing costs | N/A |

Other general comments to the table

Data provided is from the study carried out by the Forest Research and Management Institute in 2000, based on the functional zoning included in the forest management plans, in force in 1999. For the years 2005 and 2010, as there is no updated information, the area is calculated applying the percentage of the different protection categories from the study, to the forest area from respective years. The data from the FRA 2005 Report for the years 2000 and 2005 has been replaced for consistency. Data for 2015 is estimated by National Forest Inventory.

5. How much forest area is managed for protection of soil and water and ecosystem services?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

5.1 Categories and definitions

| Category | Definition |
|--|--|
| Protection of soil and water | Forest area designated or managed for protection of soil and water |
| ...of which production of clean water (<i>sub-category</i>) | Forest area primarily designated or managed for water production, where most human uses are excluded or heavily modified to protect water quality. |
| ...of which coastal stabilization (<i>sub-category</i>) | Forest area primarily designated or managed for coastal stabilization. |
| ...of which desertification control (<i>sub-category</i>) | Forest area primarily designated or managed for desertification control. |
| ...of which avalanche control (<i>sub-category</i>) | Forest area primarily designated or managed to prevent the development or impact of avalanches on human life assets or infrastructure. |
| ...of which erosion, flood protection or reducing flood risk (<i>sub-category</i>) | Forest area primarily designated or managed for protecting communities or assets from the impacts of erosion riparian floods and landslides or for providing flood plain services. |
| ...of which other (<i>sub-category</i>) | Forest area primarily designated or managed for other protective functions. |
| Ecosystem services, cultural or spiritual values | Forest area primarily designated or managed for selected ecosystem services or cultural or spiritual values. |
| ...of which public recreation (<i>sub-category</i>) | Forest area designated or managed for public recreation. |
| ...of which carbon storage or sequestration (<i>sub-category</i>) | Forest area designated or managed for carbon storage or sequestration. |
| ...of which spiritual or cultural services (<i>sub-category</i>) | Forest area designated or managed for spiritual or cultural services. |
| ...of which other (<i>sub-category</i>) | Forest area designated or managed for other ecosystem services. |

5.2 National data

5.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--|------------------------------|-------|---------------------|
| 1 | Forest Research and Management Planning Institute National Forest Inventory | Protection of soil and water | 1985 | N/A |

| | | | | |
|---|---|--|------|-----|
| 2 | Study “Criteria and indicators for sustainable management of Romanian forests”, 2000 (Forest Research and Management Institute) | Protection of soil and water | 2000 | N/A |
| 3 | Forest Research and Management Planning Institute - National Forest Inventory | Protection of soil and water and related subcategories | 2012 | N/A |
| 4 | N/A | N/A | N/A | N/A |

5.2.2 Classification and definitions

| National class | Definition |
|----------------|------------|
| N/A | N/A |

5.2.3 Original data

| Categories | Forest area (000 hectares) | | | | |
|---------------------------------------|----------------------------|-------|-------|-------|-------|
| | 1990 | 2000 | 2005 | 2010 | 2015 |
| Protection of soil and water 1) | 1 639 | 2 478 | 2 482 | 2 543 | 2 490 |
| ...of which production of clean water | n.a | n.a | n.a | n.a | 730 |
| ...of which coastal stabilization | n.a | n.a | n.a | n.a | 11 |
| ... of which desertification control | n.a | n.a | n.a | n.a | 13 |

| | | | | | |
|--|-----|-----|-----|-----|-------|
| ... of which avalanche control | n.a | n.a | n.a | n.a | 2 |
| ...of which erosion, flood protection or reducing flood risk | n.a | n.a | n.a | n.a | 1 398 |
| ...of which other (please specify in comments below the table) | n.a | n.a | n.a | n.a | 436 |

5.3 Analysis and processing of national data

5.3.1 Adjustment

5.3.2 Estimation and forecasting

5.3.3 Reclassification

5.4 Data

Table 5a

| Categories | | Forest area (1000 hectares) | | | | |
|---|--|-----------------------------|------|------|------|------|
| | | 1990 | 2000 | 2005 | 2010 | 2015 |
|  | Protection of soil and water | 1639 | 2478 | 2482 | 2543 | 2490 |
|  | ... of which production of clean water | N/A | N/A | N/A | N/A | 730 |
|  | ... of which coastal stabilization | N/A | N/A | N/A | N/A | 11 |

| | | | | | | |
|---|---|-----|-----|-----|-----|------|
|  | ... of which desertification control | N/A | N/A | N/A | N/A | 13 |
|  | ... of which avalanche control | N/A | N/A | N/A | N/A | 2 |
|  | ... of which erosion, flood protection or reducing flood risk | N/A | N/A | N/A | N/A | 1398 |
|  | ... of which other (please specify in comments below the table) | N/A | N/A | N/A | N/A | 336 |

Other

Forests located on torrential watersheds, forests on soils vulnerable at erosion and sliding; forests along rivers

Table 5b

| Categories | Forest area (1000 hectares) | | | | |
|--|-----------------------------|------|------|------|------|
| | 1990 | 2000 | 2005 | 2010 | 2015 |
| Ecosystem services, cultural or spiritual values | | | | 437 | 450 |
| ...of which public recreation | 240 | 365 | 365 | 370 | 380 |
| ...of which carbon storage or sequestration | N/A | N/A | N/A | 0 | 1 |
| ...of which spiritual or cultural services | N/A | N/A | N/A | 8 | 9 |
| ...of which other (please specify in comments below the table) | N/A | N/A | N/A | 59 | 60 |

Tiers

| Category | Tier for reported trend | Tier for status |
|--|-------------------------|-----------------|
| Protection of soil and water | Tier 3 | Tier 3 |
| Ecosystem services, cultural or spiritual values | Tier 1 | Tier 1 |

Tier criteria

| Category | Tier for status | Tier for reported trend |
|----------|-----------------|-------------------------|
|----------|-----------------|-------------------------|

| | | |
|--|---|---|
| Protection of soil and water | Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations or legislation relating to soil and water protection. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |
| <ul style="list-style-type: none"> • Cultural or spiritual values • Public recreation • Spiritual or cultural services • Other | Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |

5.5 Comments

| Category | Comments related to data definitions etc | Comments on the reported trend |
|--|--|--------------------------------|
| Protection of soil and water | N/A | N/A |
| Production of clean water | N/A | N/A |
| Coastal stabilization | N/A | N/A |
| Desertification control | N/A | N/A |
| Avalanche control | N/A | N/A |
| Erosion, flood protection or reducing flood risk | N/A | N/A |
| Other protective functions | N/A | N/A |
| Ecosystem services, cultural or spiritual values | N/A | N/A |
| Public recreation | N/A | N/A |
| Carbon storage or sequestration | N/A | N/A |
| Spiritual or cultural services | N/A | N/A |
| Other ecosystem services | Forests situated along routes with particular importance for tourism | N/A |

Other general comments to the table

| |
|-----|
| N/A |
|-----|

6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

6.1 Categories and definitions

| Category | Definition |
|------------------------------------|--|
| Conservation of biodiversity | Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas. |
| Forest area within protected areas | Forest area within formally established protected areas independently of the purpose for which the protected areas were established. |

6.2 National data

6.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--|-----------|-----------|---|
| 1 | Monitoring the conservation status of species and habitats of community interest in the frame of article 17 of Habitat Directive], Technical report, Forest Research and Management Planning Institute | N/A | 2011-2015 | Project financed by the Sectorial Operational Programme Environment of the EU |
| 2 | Study for characterization and geospatial database building for Romanian state forests located in Sites of Community Interest (SCIs), Special Protected Areas (SPAs) and natural reserves, Technical report, Forest Research and Management Planning Institute | N/A | 2010-2013 | Project financed by the National Administration of Forests Romsilva |
| 3 | Research project developed in order to meet the obligations of our country regarding the application of Community Acquis on the ecological network Natura 2000- specific activity B (| N/A | 2009-2010 | Framework Programme for Research and Technological Development of the EU |
| 4 | N/A | N/A | N/A | N/A |

6.2.2 Classification and definitions

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

| | |
|-----|-----------|
| N/A | See 4.2.2 |
| N/A | N/A |
| N/A | N/A |
| N/A | N/A |

6.2.3 Original data

| |
|------------|
| See 4.2.3. |
|------------|

6.3 Analysis and processing of national data

6.3.1 Adjustment

| |
|--|
| |
|--|

6.3.2 Estimation and forecasting

| |
|------------|
| See 4.3.2. |
|------------|

6.3.3 Reclassification

| |
|--|
| |
|--|

6.4 Data

Table 6

| Categories | | Forest area (000 hectares) | | | | |
|---|------------------------------------|----------------------------|------|------|------|------|
| | | 1990 | 2000 | 2005 | 2010 | 2015 |
|  | Conservation of biodiversity | 197 | 308 | 309 | 317 | 318 |
|  | Forest area within protected areas | 142 | 153 | 914 | 1746 | 2606 |

Tiers

| Category | Tier for status | Tier for reported trend |
|------------------------------|-----------------|-------------------------|
| Conservation of biodiversity | Tier 3 | Tier 3 |

| | | |
|------------------------------------|--------|--------|
| Forest area within protected areas | Tier 3 | Tier 3 |
|------------------------------------|--------|--------|

Tier criteria

| Category | Tier for status | Tier for reported trend |
|--|---|---|
| <ul style="list-style-type: none"> Conservation of biodiversity Forests within protected areas | Tier 3: Data obtained from national or state agencies responsible for conservation and protected area or legislation relating to area protection. Tier 2: Studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates Tier 1 Other | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |

6.5 Comments

| Category | Comments related to data definitions etc | Comments on the reported trend |
|------------------------------------|---|--------------------------------|
| Conservation of biodiversity | Data for 2015 states for the forest area assigned in the functional category „Forest of scientific interest and for the protection of Genetic Resources and Eco fund”, according to forest management plans | N/A |
| Forest area within protected areas | The figure for 1990 is estimated and represents the sum of the strictly protected forest area from the National and Natural Parks declared by a Ministerial Order in 1990. Forest area from other protected areas - natural reserves or nature monuments (declared according to legislation in force at that time) - is not included in this figure but is assumed that is not significant. Further legislation has been issued later on. The figures for the years 2000, 2005 and 2010 are assessed from digital maps in a recent project. Data reported for 2015 represents the total forest area included in the national network of protected areas and Natura 2000 Network (SCIs and SPAs). Data was obtained by GIS analysing within the project „Study for characterization and geospatial database building for Romanian state owned forests located in Sites of Community Interest (SCIs), Special Protected Areas (SPAs) and natural reserves [Lorenț A., Apostol B. (coord.), 2013]. | N/A |

Other general comments to the table

N/A

7. What is the area of forest affected by woody invasive species?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

7.1 Categories and definitions

| Category | Definition |
|------------------|--|
| Invasive species | Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health. |

7.2 National data

7.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--|------------------|------------|---|
| 1 | Forest Research and Management Planning Institute, Department of National Forest Inventory | Invasive species | 2012 | N/A |
| 2 | LIFE Project | Invasive species | 2006 –2010 | Under Life Programme of the EU Research on testing methods against <i>Amorpha fruticosa</i> conducted also a study including information on its distribution in Romania |
| 3 | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A |

7.2.2 Classification and definitions

| National class | Definition |
|----------------|------------|
| N/A | N/A |

7.2.3 Original data

| |
|--|
| |
|--|

| Scientific name of woody invasive species | Forest area affected (000 ha) |
|---|-------------------------------|
| | 2010 |
| 1. Robinia pseudacacia | 68.4 |
| 2. Acer negundo | 0.7 |
| 3. Fraxinus pennsylvanica | 0.5 |
| 4. Amorpha fruticosa | 50.0 |
| Total | 119.6 |

7.3 Analysis and processing of national data

7.3.1 Adjustment

| |
|--|
| |
|--|

7.3.2 Estimation and forecasting

| |
|--|
| |
|--|

7.3.3 Reclassification

| |
|--|
| |
|--|

7.4 Data

Table 7

| Scientific name of woody invasive species | Forest area affected (000 ha) | |
|---|-------------------------------|------|
| | 2005 | 2010 |
| 1. Robinia pseudacacia | N/A | 68.4 |
| 2. Acer negundo | N/A | 0.7 |
| 3. Fraxinus pennsylvanica | N/A | 0.5 |
| 4. Amorpha fruticosa | N/A | 50 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

| | | |
|-------|-----|-------|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| Total | N/A | 119.6 |

Tiers

| Category | Tier for status | Tier for reported trend |
|------------------|-----------------|-------------------------|
| Invasive species | Tier 2 | Tier 2 |

Tier Criteria

| Category | Tier for status | Tier for reported trend |
|------------------|--|---|
| Invasive species | Tier 3: Systematic assessment in forest inventory or other survey (e.g. by conservation department) within the last 5 years) Tier 2: Systematic assessment in forest inventory or other survey (e.g. by conservation department conducted more than 5 years ago) Tier 1: Other | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |

7.5 Comments

| Category | Comments related to data definitions etc | Comments on the reported trend |
|------------------|--|--------------------------------|
| Invasive species | N/A | N/A |

Other general comments to the table

| |
|-----|
| N/A |
|-----|

8. How much forest area is damaged each year?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

8.1 Categories and definitions

| Category | Definition |
|-----------------------|---|
| Number of fires | Number of fires per year |
| Burned area | Area burned per year |
| Outbreaks of insects | A detectable reduction in forest health caused by a sudden increase in numbers of harmful insects. |
| Outbreaks of diseases | A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus. |
| Severe weather events | Damage caused severe weather events, such as snow, storm, drought, etc. |

8.2 National data

8.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--|---|------------|---------------------|
| 1 | Forest Monitoring; Forest Research and Management Planning Institute, 2003 | Disturbance by insects, Disturbance by diseases, Disturbance by other biotic agents, Disturbance caused by abiotic factors | 1990- 2006 | N/A |
| 2 | Reports from National Administration of Forests | Disturbance by insects, Disturbance by diseases, Disturbance by other biotic agents, Disturbance caused by abiotic factors. | 1990-2005 | N/A |
| 3 | Reports from National Administration of Forests and from Forestry Regime and Hunting Territorial Inspectorates | Number of fires, Forest area burned, Disturbance by insects, Disturbance by diseases, Disturbance by other biotic agents, Disturbance caused by abiotic factors | 2006-2012 | N/A |
| 4 | FAOSTAT | Total land area burned | 2003-2012 | N/A |

8.2.2 Classification and definitions

| National class | Definition |
|-----------------|---------------------------|
| Number of fires | Number of fires per year. |

| | |
|-----------------------|---|
| Burned area | Area burned per year. |
| Outbreaks of insects | A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus. |
| Outbreaks of diseases | A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus. |
| Severe weather events | Damage caused severe weather events, such as snow, storm, drought, etc. |

8.2.3 Original data

| Description / name | Period of time Years | Area damaged (thousand hectares) |
|--|-------------------------|----------------------------------|
| Reports from National Administration of Forests Romsilva (NAF) | | |
| Tortrix viridana + Geometridae sp. / broadleaved stands with quercus sp. > 30% | 2007 - 2009 | 76.7 |
| Lymantria dispar/ broadleaved stands | 2007 -2012 | 21.4 |
| Stereonichus fraxini/ Fraxinus excelsior | 2007 -2012 | 2.8 |
| Pygaera anastomosis / Populus sp. | 2008 | 0.3 |
| | 2011 | 1.5 |
| Ipidae sp. (prevailing species: Ips typographus)/ coniferous stands | 2007 -2012 | 1135.1 |
| Wind storm and snow damage | 2007 - 2012 | 1.4 |
| Reports from NAF on private forests with contracted services with NAF | | |
| Lymantria dispar | 2012 | 0.4 |
| Tortrix viridana + Geometridae sp. | 2007 - 2009 | 5.9 |
| Ipidae sp. (prevailing species: Ips typographus) | 2007 -2012 | 270.6 |
| Reports from NAF on private forests without contracted services with NAF and on other forest land | | |

| | | |
|--|-------------|--------|
| Tortrix viridana + Geometridae sp. / broadleaved stands with quercus sp. > 30% | 2007 - 2009 | 7.0 |
| Reports from Forestry Regime and Hunting Territorial Inspectorates (on private forests and forests owned by local authorities - cities, communes) | | |
| Tortrix viridana /broadleaved stands with quercus sp. > 30% | 2009-2012 | 10.355 |
| Geometridae sp./ broadleaved stands with quercus sp. > 30% | 2009-2012 | 2.558 |
| Lymantria dispar/ broadleaved stands | 2009-2012 | 0.83 |
| Ipidae sp. (prevailing species: Ips typographus) | 2009-2012 | 208.43 |

8.3 Analysis and processing of national data

8.3.1 Adjustment

8.3.2 Estimation and forecasting

8.3.3 Reclassification

8.4 Data

Table 8a

| Category | | 000 ha, number of fires | | | | | | | | | |
|---|---------------------------------|-------------------------|-----|--------|-----|--------|-----|---------|-----|---------|-----|
| | | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | |
| | | 000 ha | # | 000 ha | # | 000 ha | # | 000 ha | # | 000 ha | # |
|  | Total land area burned | 42.652 | N/A | 84.594 | N/A | 39.889 | N/A | 112.012 | N/A | 214.986 | N/A |
|  | ... of which forest area burned | 0.762 | 203 | 0.124 | 34 | 0.162 | 64 | 0.946 | 105 | 2.529 | 478 |

| Category | | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | |
|---|---------------------------------|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|
| | | 000 ha | # |
|  | Total land area burned | 542.426 | N/A | 153.973 | N/A | 176.249 | N/A | 285.651 | N/A | 376.269 | N/A |
|  | ... of which forest area burned | 0.373 | 91 | 0.974 | 190 | 0.206 | 70 | 2.195 | 340 | 6.299 | 882 |

Table 8b

| Outbreak category | Description/name | Year(s) of latest outbreak | Area damaged (000 hectares) |
|-------------------|---|----------------------------|-----------------------------|
| 1 | Tortrix viridana / broadleaved stands with quercus sp. > 30% | 1998 | 400 |
| 1 | Ips typographus (prevailing species: Ips typographus) / coniferous stands | 2001 - 2006 | 1806.7 |
| 1 | Tortrix viridana / broadleaved stands with quercus sp. > 30% | 2007-2012 | 100 |
| 1 | Geometridae / broadleaved stands with quercus sp. > 30% | 2010-2012 | 2.6 |
| 1 | Lymantria dispar / broadleaved stands | 2007-2012 | 22.6 |
| 1 | Ipidae sp. (prevailing species: Ips typographus) / coniferous stands | 2007-2012 | 1614.1 |
| 1 | Pygaera anastomosis / Populus sp. | 2008-2011 | 1.8 |
| 1 | Stereonichus fraxini / Fraxinus excelsior | 2012 | 2.8 |
| 3 | Windstorm and snow damage | 2007-2012 | 1.4 |
| N/A | N/A | N/A | N/A |

| Outbreak category |
|-------------------------|
| 1 Insects |
| 2 Diseases |
| 3 Severe weather events |

Tiers

| Category | Tier for status | Tier for trend |
|----------|-----------------|----------------|
|----------|-----------------|----------------|

| | | |
|--|--------|--------|
| Area affected by fire | Tier 2 | Tier 2 |
| <ul style="list-style-type: none"> • Insects • Diseases • Severe weather events | Tier 2 | Tier 2 |

Tier criteria

| Category | Tier for status | Tier for reported trend |
|--|--|---|
| Burned area | Tier 3 : National fire monitoring routines Tier 2 : Remote sensing surveys Tier 1 : Other | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |
| <ul style="list-style-type: none"> • Insects • Diseases • Severe weather events | Tier 3 : Systematic survey (e.g. via inventory or aerial damage assessment) Tier 2 : Management records Tier 1 : Other | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |

8.5 Comments

| Category | Comments related to data definitions etc | Comments on the reported trend |
|-----------------------|--|---|
| Burned area | Area and number of forest fires in 2012 are much higher than in previous years. FAO data detected through MODIS were used for burned area and tier changed to tier 2. | A possible explanation of this trend is the fact that about two-thirds of the area affected by forest fires is due to uncontrolled burning of dry vegetation on land adjacent forests, fire propagating in this way in the forest, against the background of a dry year, with high temperatures. The average temperature of 2012 was with 1.1 °C higher than the multiannual average temperature for the period 1961-1990, and in this year new absolute maximum temperatures have been recorded at 39 meteorological stations. |
| Insects | Only forest area with significant increase of pest infestation intensity has been considered, and on which works to combat pests were done in order to limit or destabilize pest action. | N/A |
| Diseases | - | N/A |
| Severe weather events | Only forest areas with massive wind storm and snow damage have been reported, not areas with scattered trees | N/A |

Other general comments to the table

N/A

9. What is the forest area with reduced canopy cover?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

| Category | Definition |
|---------------------------|--|
| Reduction in canopy cover | Forest that has undergone a reduction of canopy cover of more than 20% between the years 2000 and 2010 within the forest canopy cover range of 30-80% as detected by the MODIS VCF sensor. |

Table 9

| Category | Area of forest with reduced canopy cover (000 ha) |
|---------------------------|---|
| Reduction in canopy cover | 143.08 |

Tiers

| Category | Tier for reported trend |
|---------------------------|-------------------------|
| Reduction in canopy cover | N/A |

Tier criteria

| Category | Tier for reported trend |
|---------------------------|--|
| Reduction in canopy cover | Tier 3 : Remote sensing with ground truthing and/or Landsat imagery Tier 2 : Remote sensing using Modis (using pre-filled data provided by FAO) Tier 1 : Expert opinion |

Comments

| Category | Comments related to data definitions etc |
|---------------------------|--|
| Reduction in canopy cover | N/A |

Other general comments

| |
|--|
| |
|--|

10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

10.1 Categories and definitions

| Category | Definition |
|--|--|
| Policies supporting sustainable forest management | Policies or strategies that explicitly encourage sustainable forest management. |
| Legislation and regulations supporting sustainable forest management | Legislation and regulations that govern and guide sustainable forest management, operations and use. |

10.2 National data

10.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--------------------------------------|--|-------|--|
| 1 | Law 46/2008 - Forest Code | Legislation and regulations supporting sustainable forest management | 2008 | The Forest Code has been consolidated several times and it is subject of further modifications, as appropriate |
| 2 | National Forest Strategy (2014-2023) | Policies supporting sustainable forest management | 2013 | N/A |
| 3 | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A |

10.2.2 Classification and definitions

| National class | Definition |
|-----------------------------------|--|
| Sustainable management of forests | - Management and use of forests so they maintain and improve their biodiversity, productivity, regeneration capacity, vitality, health and so that they permanently provide, now and in the future, the capacity to perform multiple functions - ecological, economic and social at local, regional, national and global levels without causing damage to other ecosystems |
| N/A | N/A |
| N/A | N/A |

| | |
|-----|-----|
| N/A | N/A |
|-----|-----|

10.2.3 Original data

| |
|--|
| |
|--|

10.3 Data

Table 10

| Category | | | | |
|--|----------|--------------|------------------|-------|
| | National | Sub-national | | |
| | | Regional | Provincial/State | Local |
| Policies supporting sustainable forest management | yes | no | no | no |
| ... of which, in <u>publicly</u> owned forests | yes | no | no | no |
| ... of which, in <u>privately</u> owned forests | yes | no | no | no |
| Legislation and regulations supporting sustainable forest management | yes | no | no | no |
| ... of which, in <u>publicly</u> owned forests | yes | no | no | no |
| ... of which, in <u>privately</u> owned forests | yes | no | no | no |

10.4 Comments

| Variable / category | Comments related to data definitions etc |
|---------------------|--|
|---------------------|--|

| | |
|--|---|
| Policies supporting sustainable forest management | <p>Romania attaches a great importance to sustainable forest management ensuring the integrity of forest land and even expanding forest area, which is an already constant target of forest policy. Providing functional stability and higher efficiency of forest ecosystems in order to ensure biosphere stability are basic principles of forest management in our country. The sustainable forest management has a long tradition in Romania, practically the entire national forest area being managed in terms of the silvicultural regime - system of technical, economic and legal regulations/norms on management planning, guarding, pest control, logging and regeneration of forests, issued by the central public authority for forestry – for many decades. The main characteristics of the Romanian forest management are: forest repartition by functional zones, maintaining the natural composition of forests, utilization of adequate forest cuttings to maintain the ecological balance and the evolution towards multi-use forests. The tool used to promote the forest conservation and sustainability in the forest management planning is the «functional zoning» system of the forests, based on two major «functional groups» according to ecological, economic and social functions to be accomplished by forests:</p> <ul style="list-style-type: none"> • Group I - forests with special protection function: water, soil, against climate and industrial damaging factors, recreation, preservation of flora and fauna and biodiversity conservation, improvement of environmental conditions etc. and • Group II - production and protection forests. <p>55 categories of functional zones corresponding to different protection functions are set within these two groups and subsequent sub-groups and appropriate cutting systems are assigned to them in specific technical norms to be observed by forest management planning. This allows forests to play an active role in maintaining and enhancing all the protection functions and in sustainable development and wellbeing of society, for both rural and urban areas.</p> |
| Legislation and regulations supporting sustainable forest management | <p>Forest conservation and sustainable forest management are ones of the highest priorities in the forestry legislation and the whole system of forest management planning in Romania. The principles underpinning sustainable forest management are provided in the Law 46/2008 - Forest Code, Implementation of sustainable forest management is equivalent with the implementation of the forestry regime, which is defined as a unitary system of technical forestry, economic and legal regulations/norms on management planning, guarding, pest control, logging and regeneration of forests, issued by the central public authority for forestry, in order to ensure sustainable forest management. According to the Forest Code, compliance with forestry regime is mandatory for all forest owners, having as obligation in the application of forestry regime, to ensure the preparation and enforcement of forest management plans. Also according to Forest Code, the management of forests – ensuring administration or providing forest services are compulsory and should be provided by forest districts for all forests, disregarding ownership type. Thus, the owners should ensure forest management through their forest districts (forest management structures with professional staff), or could contract forest management or providing forest services with other forest districts, including the National Administration of Forests, in charge with state owned forest management.</p> |

Other general comments

| |
|--|
| |
|--|

11. Is there a national platform that promotes stakeholder participation in forest policy development?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

11.1 Categories and definitions

| Category | Definition |
|-------------------------------|---|
| National stakeholder platform | A recognized procedure that a broad range of stakeholders can use to provide opinions, suggestions, analysis, recommendations and other input into the development of national forest policy. |

11.2 National data

11.2.1 Data sources

| | References to sources of information | Years | Additional comments |
|---|--|-------|--|
| 1 | Law on Social Dialogue no. 62/2011 | 2011 | Provides establishment of social partnerships between the government, employers' organizations and trade unions. |
| 2 | Law no. 52/2003 on transparency in public administration | 2003 | Provides the opportunity for stakeholders to submit written proposals, suggestions or opinions on draft legislation submitted for public debate. |
| 3 | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A |

Table 11

| | |
|---|-----|
| Is there a national platform that promotes or allows for stakeholder participation in forest policy development? | yes |
|---|-----|

11.3 Comments

| Category | Comments related to data definitions etc |
|-------------------------------|--|
| National stakeholder platform | Development of forest strategy is a result of a consultative and participatory process, involving all stakeholders, including the general public, specialists in all branches of the forest sector (or closely related to adjacent sectors (tourism, hunting, forest products etc..) and civil society - the main beneficiary of the functions provided by forest. |

Other general comments

| |
|--|
| |
|--|

12. What is the forest area intended to be in permanent forest land use and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

12.1 Categories and definitions

| Category | Definition |
|---|---|
| Forest area intended to be in permanent forest land use | Forest area that is designated or expected to be retained as forest and is highly unlikely to be converted to other land use. |
| ...of which permanent forest estate (<i>sub-category</i>) | Forest area that is designated by law or regulation to be retained as forest and may not be converted to other land use. |

12.2 National data

12.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--------------------------------------|-------------------------|-------|---------------------|
| 1 | Forest Code | Permanent forest estate | 2008 | N/A |
| 2 | N/A | N/A | N/A | N/A |
| 3 | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A |

12.2.2 Classification and definitions

| National class | Definition |
|----------------------|---|
| National Forest Fund | According to the definitions provided in Table 1.2.2 Classification and definitions |
| N/A | N/A |
| N/A | N/A |
| N/A | N/A |

12.2.3 Original data

| |
|--|
| |
|--|

12.3 Analysis and processing of national data

12.3.1 Adjustment

| |
|--|
| |
|--|

12.3.2 Estimation and forecasting

| |
|--|
| |
|--|

12.3.3 Reclassification

| |
|--|
| |
|--|

12.4 Data

Table 12

| Categories | | Forest area 2010 (000 ha) |
|---|---|---------------------------|
|  | Forest area intended to be in permanent forest land use | 6515 |
|  | ... of which permanent forest estate | 6515 |

Tiers

| Category | Tier for status |
|---|-----------------|
| Forest area intended to be in permanent forest land use | Tier 3 |
| Permanent forest estate | Tier 3 |

Tier Criteria

| Category | Tier for status |
|---|---|
| Forest area intended to be in permanent forest land use | Tier 3 : National or sub-national land use plans strategy documents or other reports within the past 10 years Tier 2 : National or sub-national land use plans strategy documents or other reports within the past 20 years Tier 1 : Other |
| Permanent forest estate | Tier 3 : National or sub-national land use plans strategy documents or other reports within the past 10 years Tier 2 : National or sub-national land use plans strategy documents or other reports within the past 20 years Tier 1 : Other |

12.5 Comments

| Category | Comments related to data definitions etc |
|---|--|
| Forest area intended to be in permanent forest land use | N/A |
| Permanent forest estate | According to the Forest Code, reduction of the national forest fund is prohibited; notwithstanding, it is permitted to be reduced through permanent removal, in order to achieve the objectives of national interest, declared of public utility, under the law. |

Other general comments

| |
|--|
| |
|--|

13. How does your country measure and report progress towards SFM at the national level?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

13.1 Categories and definitions

| Category | Definition |
|--|--|
| Forest area monitored under a national forest monitoring framework | Forest area monitored by a national monitoring framework or systems that provide measurement based periodic monitoring of forest extent and quality. |
| Forest reporting at national scale | National reporting of forest extent and characteristics that includes some measure of progress toward sustainable forest management. |

13.2 National data

13.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|---|---|-------|---------------------------|
| 1 | National Institute of Statistics | Forest area monitored under a national forest monitoring framework Forest fund | 2012 | Annual statistic research |
| 2 | Forest Research and Management Planning Institute - National Forest Inventory | Forest area monitored under a national forest monitoring framework Forest fund | 2012 | N/A |
| 3 | Report on State of the Forests | Forest reporting at national scale | 2012 | Annual report |
| 4 | N/A | N/A | N/A | N/A |

13.2.2 Classification and definitions

| National class | Definition |
|---|---|
| Forest area monitored under the National Forest Inventory | According to the definitions provided in Table 1.2.2 Classification and definitions |
| Forest area monitored under the statistical reports carried out by the National Institute of Statistics | According to the definitions provided in Table 1.2.2 Classification and definitions |
| N/A | N/A |
| N/A | N/A |

13.3 Data

Table 13a

| Category | % of total forest area | Most recent year | Check all boxes that apply | | | | | |
|--------------------------|------------------------|------------------|----------------------------|----------|------------------------|------------------------|------------------------------------|-------------------------------------|
| | | | Continuous | Periodic | Permanent ground plots | Temporary ground plots | Aerial/remote sensing sample based | Aerial/remote sensing full coverage |
| Forest inventory | 100 | 2012 | yes | | yes | yes | no | no |
| Other field assessments | N/A | N/A | no | no | no | no | no | |
| Updates to other sources | N/A | N/A | no | no | no | no | no | no |
| Expert estimate | N/A | N/A | | | | | | |

Table 13b

| Type of forest reporting used at national scale | Check boxes that apply |
|---|------------------------|
| 1 Criteria and Indicators reporting | yes |
| 2 Periodic national state of the forest report | yes |
| 3 Other (please document) | no |
| 4 None | no |

Other type of forest reporting

N/A

13.4 Comments

| Category | Comments |
|---|---|
| National Institute of Statistics | Institution in charge of reporting (latest report 2012) |
| Forest Research and Management Planning Institute | Institution in charge of reporting (latest report 2012) |
| Department of Waters, Forests and Pisciculture | Institution in charge of reporting (latest report 2012) |

Other general comments

| |
|--|
| |
|--|

14. What is the area of forest under a forest management plan and how is this monitored?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

14.1 Categories and definitions

| Category | Definition |
|--|---|
| Forest area with management plan | Forest area that has a long-term documented management plan, aiming at defined management goals which is periodically revised |
| ...of which for production (<i>sub-category</i>) | Forest management plan mainly focused on production |
| ...of which for conservation (<i>sub-category</i>) | Forest management plan mainly focused on conservation |
| Monitoring of forest management plans | Government monitoring of forest management plan implementation conducted through field visits or audits of forest management plan performance |

14.2 National data

14.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|---|----------------------------------|-------|---------------------|
| 1 | Forest Research and Management Planning Institute - National Forest Inventory | Forest area with management plan | 2010 | N/A |
| 2 | N/A | N/A | N/A | N/A |
| 3 | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A |

14.3 Data

Table 14a

| Forest plan type | Forest area 2010 (000 ha) |
|----------------------------------|---------------------------|
| Forest area with management plan | 5653 |
| ... of which for production | N/A |
| ... of which for conservation | N/A |

Table 14b

| |
|---|
| Indicate which (if any) of the following are required in forest management plans in your country |
|---|

| | |
|---|-----|
| 1 Soil and water management | yes |
| 2 High conservation value forest delineation | yes |
| 3 Social considerations community involvement | yes |

Table 14c

| | |
|--|-----------|
| Percent of area under forest management plan that is monitored annually | 10 |
|--|-----------|

Tiers

| Category | Tier for status |
|---|-----------------|
| Forest area with management plan | Tier 3 |
| Percent of area under forest management plan that is monitored annually | Tier 1 |

Tier criteria

| Category | Tier for status |
|---|---|
| Forest area with management plan | Tier 3 : Reports that describe national records 5 years old or less that contain long-term forest monitoring plans Tier 2 : Industry or other records indicating the presence of a long-term forest management plan Tier 1 : Other |
| Percent of area under forest management plan that is monitored annually | Tier 3 : Government documentation of monitoring extent Tier 2 : Reports from forest managers or other documental sources Tier 1 : Other |

14.4 Comments

| Category | Comments |
|---|---|
| Social considerations/community involvement | Regardless of the legal nature of ownership (public or private), in the case of social objectives near forests (schools, hospitals, historic sites, roads, settlements, etc..) forest management plan sets those objectives as protected, and surrounding forests are assigned with protection functions. The public consultation is done on the expenses of the forest owners, both for forest management plans for public owned forests and for private forests, during the environmental assessment process, the County Environmental Protection Agency being in charge with it. |
| Soil and water management | In order to protect soils, surface water and groundwater (drinking water sources or springs, mineral water), the forest management plan establishes appropriate protection functions for respective forests and, consequently, necessary forestry works. |

| | |
|---|--|
| <p>High conservation value forest delineation</p> | <p>According to legislation in force, objectives and specific conservation measures are taken into consideration in the forest management plans of the forests that are part of protected areas. Forests in the vicinity of water, located in wetlands, with endemic species, threatened species, designated as genetic resources, etc., have adequate protection functions established by forest management plan, which are reflected in appropriate restrictions on wood harvesting, harvesting methods, restrictions that can reach up to ban any works in those areas.</p> |
|---|--|

Other general comments

| |
|--|
| |
|--|

15. How are stakeholders involved in the management decision making for publicly owned forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

15.1 Categories and definitions

| Category | Definition |
|-------------------------|---|
| Stakeholder involvement | Stakeholder involvement is defined as significant inputs into at least one aspect of forest management at the operational scale |

Table 15

| Please indicate the type of stakeholder involvement in forest management decision making required in your country | |
|---|-----|
| 1. Planning phase | yes |
| 2. Operations phase | no |
| 3. Review of operations | no |

Tiers

| Category | Tier for status |
|----------------------------|-----------------|
| Type of stakeholder inputs | Tier 1 |

Tier criteria

| Category | Tier for status |
|----------------------------|--|
| Type of stakeholder inputs | Tier 3 : Government (national or sub-national) documentation of stakeholder inputs Tier 2 : Government (national or subnational) requirement but stakeholder inputs not documented Tier 1 : Other |

15.2 Comments

| Category | Comments |
|-------------------------|---|
| Stakeholder involvement | Public consultation is carried out during the environmental assessment process, involving any interested stakeholder, the County Environmental Protection Agency being in charge with it. |
| N/A | N/A |
| N/A | N/A |

Other general comments

| |
|--|
| |
|--|

16. What is the area of forest under an independently verified forest certification scheme?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

16.1 Categories and definitions

| Category | Definition |
|---|--|
| FSC certification | Forest area certified under the Forest Stewardship Council certification scheme |
| PEFC certification | Forest area certified under the Programme for the Endorsement of Forest Certification scheme |
| Other international forest management certification | Forest area certified under an international forest management certification scheme with published standards and is independently verified by a third-party, excluding FSC and PEFC certification. |
| Certified forest area using a domestic forest management certification scheme | Area certified under a forest management certification scheme with published standards that are nationally recognized and independently verified by a thirdparty |

16.2 Data

Table 16a

| International forest management certification | | Forest area (000 ha) | | | | | | |
|---|-------|----------------------|---------|--------|--------|--------|--------|--------|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|  | FSC | 0 | 0 | 31.61 | 31.61 | 31.61 | 48.9 | 941.55 |
|  | PEFC | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | |
|  | FSC | 1092.8 | 1080.32 | 917.47 | 914.68 | 717.06 | 717.06 | |
|  | PEFC | 0 | 0 | 0 | 0 | 0 | 0 | |
|  | Other | 0 | 0 | 0 | 0 | 0 | 0 | |

Table 16b

| Domestic forest management certification | | Forest area (000 ha) | | | | | | |
|---|--------|----------------------|------|------|------|------|------|------|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|  | 1.Name | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 2.Name | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 3.Name | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | |
|---|--------|------|------|------|------|------|------|--|
|  | 1.Name | 0 | 0 | 0 | 0 | 0 | 0 | |
|  | 2.Name | 0 | 0 | 0 | 0 | 0 | 0 | |
|  | 3.Name | 0 | 0 | 0 | 0 | 0 | 0 | |

Tier criteria

| Category | Tier for status |
|--|--|
| International forest management certification | Tier 3: International forest management scheme records maintained by the certifying organization for the reporting year Tier 2: International forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other |
| Domestic forest management certification | Tier 3: National registry reports for domestic forest management certification maintained by the certifying organization for the reporting year Tier 2: Domestic forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other |

Tiers

| Category | Tier for status |
|--|-----------------|
| International forest management certification | Tier 3 |
| Domestic forest management certification | N/A |

16.3 Comments

| Category | Comments related to data definitions etc |
|---|--|
| Certified forest area using an international forest management certification scheme | Data on forest area certified is from FSC Certificate Database –from the official site of FSC, as of the end of 2013. Forest area certified is 96.6 % state owned forests, under the management of National Administration of Forests Romsilva, 2.8 % is owned by public local authorities and 0.6 % is privately owned. |
| Domestic forest management certification | There are not domestic forest management certification schemes available in Romania |

Other general comments

| |
|--|
| |
|--|

17. How much money do governments collect from and spend on forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

17.1 Categories and definitions

| Category | Definition |
|--------------------------------|---|
| Forest revenue | All government revenue collected from the domestic production and trade of forest products and services. For this purpose revenue include: <ul style="list-style-type: none"> • <u>Goods</u> : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products. • <u>Services</u> : including concession fees and royalties, stumpage payments, public timber sales revenue taxes and charges based on forest area or yield, taxes on domestic trade and export of forest products, special levies on forestry activities and payments into forest related funds, other miscellaneous inspection, licence and administrative fees levied by forest administrations, permit and licence fees for recreation and other forest related activities. |
| Public expenditure on forestry | All government expenditure on forest related activities. |

17.2 National data

17.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--|--|------------------|---------------------|
| 1 | Ministry of Agriculture, Forests and Rural Development | Operational expenditure Transfer payments | 2001, 2005 | N/A |
| 2 | Forest Research and Management Planning Institute | Operational expenditure | 2000, 2005, 2010 | N/A |
| 3 | Ministry of Environment and Climate Change, Department of Waters, Forests and Pisciculture | Public expenditure on forestry | 2010 | N/A |
| 4 | National Administration of Forests Romsilva | Public expenditure on forestry | 2010 | N/A |
| 5 | Environmental Fund Administration - Report on management of the Environmental Fund in 2010 | Public expenditure on forestry | 2010 | N/A |

17.3 Data

Table 17

| Category | Revenues / expenditures (000 local currency) | | |
|----------------|--|------|------|
| | 2000 | 2005 | 2010 |
| Forest revenue | N/A | N/A | N/A |

| | | | |
|--------------------------------|-------|-------|--------|
| Public expenditure on forestry | 15012 | 97915 | 149994 |
| | 2000 | 2005 | 2010 |
| Name of Local Currency | Leu | Leu | Leu |

17.4 Comments

| Category | Comments related to data definitions etc |
|--------------------------------|--|
| Forest revenue | N/A |
| Public expenditure on forestry | “Forest Authority” moved from the “Environment and Forest Authority “ to “Agriculture and Forest Authority”, in a different ministry, in the beginning of year 2001. Data reported for 2000 are from the year 2001 Denomination of the local currency was operated in the mid 2005: 1 Leu (RON) 2005 = 10 000 Lei before 2005 Transformation of figures has been done accordingly. Value for 2010 doesn’t include expenditure with personnel |
| Other general comments | N/A |

Other general comments

| |
|--|
| |
|--|

18. Who owns and manages the forests and how has this changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

18.1 Categories and definitions

| Category | Definition |
|--|--|
| Public ownership | Forest owned by the State or administrative units of the public administration or by institutions or corporations owned by the public administration. |
| ...of which owned by the state at national scale (<i>sub-category</i>) | Forest owned by the State at the national scale or administrative units of the public administration or by institutions or corporations owned by the public administration. |
| ...of which owned by the state at the sub-national government scale (<i>sub-category</i>) | Forest owned by the State at the sub-national government scale or administrative units of the public administration or by institutions or corporations owned by the public administration. |
| Private ownership | Forest owned by individuals, families, communities, private cooperatives corporations and other business entities, private, religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions. |
| ...of which individuals (<i>sub-category</i>) | Forest owned by individuals and families. |
| ...of which private business entities and institutions (<i>sub-category</i>) | Forest owned by private corporations cooperatives companies and other business entities as well as private nonprofit organizations such as NGOs nature conservation associations, and private religious and educational institutions etc. |
| ...of which local tribal and indigenous communities (<i>sub-category</i>) | Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area or forest owned by communities of indigenous or tribal people The community members are coowners that share exclusive rights and duties and benefits contribute to the community development. |
| Unknown ownership | Forest area where ownership is unknown includes areas where ownership is unclear or disputed. |
| Categories related to management rights of public forests | Definition |
| Public Administration | The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation. |
| Individuals households | Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements. |
| Private companies | Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities private cooperatives, private nonprofit institutions and associations, etc., through long-term leases or management agreements. |
| Communities | Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements. |
| Other form of management rights | Forests for which the transfer of management rights does not belong to any of the categories mentioned above. |

18.2 National data

18.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--------------------------------------|--|---------------------|----------------------|
| 1 | National Institute of Statistics | Public ownership, Private ownership...of which owned by individuals...of which owned by private business entities and institutions | 1990 2000 2005 2010 | Statistical yearbook |
| 2 | N/A | N/A | N/A | N/A |
| 3 | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A |

18.2.2 Classification and definitions

| National class | Definition |
|-------------------|--|
| Public ownership | Forest owned by the State and administrative units of the public administration; |
| Private ownership | Forest owned by individuals, religious and educational institutions, legal persons |
| N/A | N/A |
| N/A | N/A |

18.2.3 Original data

| FOREST AREA, BY OWNERSHIP | | | |
|--------------------------------|-------------|-------------|-------------|
| OWNERSHIP TYPE | FOREST AREA | | |
| | 1000 ha | | |
| | 1990 | 2000 | 2005 |
| Forest area – total | 6371 | 6366 | 6391 |
| Public ownership, total | 6371 | 6010 | 5090 |

| | | | |
|--|----------|------------|-------------|
| - State owned forests managed by National Administration of Forests | 0 | 6010 | 4234 |
| - Other owners | 0 | 0 | 3 |
| - Cities and Communes Councils | 0 | 0 | 853 |
| Private ownership, total | 0 | 356 | 1301 |
| - legal persons | 0 | 0 | 613 |
| - Individuals | 0 | 356 | 688 |

FOREST AREA, BY OWNERSHIP

| OWNERSHIP TYPE | FOREST AREA IN 2010 1000 ha |
|---------------------------------|--------------------------------|
| Forest area - TOTAL | 6515 |
| Public ownership | 4363 |
| - State owned forests | 3339 |
| - Cities and Communes Councils | 1024 |
| Private ownership | 2152 |
| - Individuals and legal persons | 2079 |
| - Cities and Communes Councils | 73 |

Data for the forest area in private ownership for 2010 is cumulative for individuals and private business entities and institutions.

The closest data available for forest area in private ownership, divided by individuals and legal persons (private business entities and institutions), is from 2007, as follows:

Forest area in private ownership (thousand hectares):

Total: **1791**

...of which owned by individuals: 962

...of which owned by private business entities and institutions: 829

18.3 Analysis and processing of national data

18.3.1 Adjustment

18.3.2 Estimation and forecasting

Due to the restitution rate of forests to former owners and the big differences between the years, it is not feasible to estimate which is the area on the two categories in 2010

18.3.3 Reclassification

18.4 Data

Table 18a

| Categories | | Forest area (1000 hectares) | | | |
|---|--|-----------------------------|------|------|------|
| | | 1990 | 2000 | 2005 | 2010 |
|  | Public ownership | 6371 | 6010 | 5090 | 4363 |
|  | ... of which owned by the state at national scale | 6371 | 6010 | 4234 | 3339 |
|  | ... of which owned by the state at the sub-national government scale | 0 | 0 | 0 | 0 |
|  | Private ownership | 0 | 356 | 1301 | 2152 |
|  | ... of which owned by individuals | 0 | 356 | 688 | N/A |
|  | ... of which owned by private business entities and institutions | 0 | 0 | 613 | N/A |

| | | | | | |
|---|--|---------|---------|---------|---------|
|  | ... of which owned by local, tribal and indigenous communities | 0 | 0 | 0 | 0 |
|  | Unknown ownership | 0 | 0 | 0 | 0 |
| TOTAL | | 6371.00 | 6366.00 | 6391.00 | 6515.00 |

Tiers

| Category | Tier for status | Tier for reported trend |
|-------------------|-----------------|-------------------------|
| Public ownership | Tier 3 | Tier 3 |
| Private ownership | Tier 3 | Tier 3 |
| Unknown ownership | Tier 3 | N/A |

Tier criteria

| Category | Tier for status | Tier for reported trend |
|-----------|--|---|
| Ownership | Tier 3: National forestry statistics registers of land titles or maps on land ownership or all forest area under one ownership category that is five years old or less. Tier 2: National forestry statistics registers of land titles or maps on land ownership or questionnaires that are more than five years old. Tier 1: Other | Tier 3 : Estimate based on repeated compatible tiers 3 (tier for status) Tier 2 : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) Tier 1 : Other |

Table 18b - Holder of management rights of public forests

| Categories | Forest area (000 hectares) | | | |
|-----------------------|----------------------------|---------|---------|---------|
| | 1990 | 2000 | 2005 | 2010 |
| Public Administration | 6371 | 6010 | 5090 | 4363 |
| Individuals | 0 | 0 | 0 | 0 |
| Private companies | 0 | 0 | 0 | 0 |
| Communities | 0 | 0 | 0 | 0 |
| Other | 0 | 0 | 0 | 0 |
| TOTAL | 6371.00 | 6010.00 | 5090.00 | 4363.00 |

| Category | Tier for reported trend | Tier for status |
|-----------------------|-------------------------|-----------------|
| Public Administration | Tier 3 | Tier 3 |

| | | |
|-------------------|--------|--------|
| Individuals | Tier 3 | Tier 3 |
| Private companies | Tier 3 | Tier 3 |
| Communities | Tier 3 | Tier 3 |
| Other | N/A | N/A |

18.5 Comments

| Category | Comments related to data definitions etc | Comments on the reported trend |
|-------------------|--|--------------------------------|
| Public ownership | N/A | N/A |
| Private ownership | N/A | N/A |
| Unknown ownership | N/A | N/A |
| Management rights | N/A | N/A |

Other general comments to the table

N/A

19. How many people are directly employed in forestry?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

19.1 Categories and definitions

| Category | Definition |
|-----------------------------|--|
| Full-time equivalents (FTE) | A measurement equal to one person working full-time during a specified reference period. |
| Employment in forestry | Employment in activities related to production of goods derived from forests. This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging). |

19.2 National data

19.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--|---|-------|---|
| 1 | Reports from National Administration of Forests | Employment in primary production of goods | 2009 | Data refers to staff working in forest management only (excluding staff working in wood logging and production of industrial roundwood) |
| 2 | Report from the Commission certifying wood logging operators | Employment in primary production of goods | 2005 | Data refers to staff working in wood logging and production of industrial roundwood |
| 3 | National Institute of Statistics - EUROSTAT | Employment in forestry | 2010 | NACE_R2 - Forestry and logging |
| 4 | N/A | N/A | N/A | N/A |

19.2.2 Classification and definitions

| National class | Definition |
|----------------|------------|
| N/A | N/A |

19.2.3 Original data

| |
|--|
| |
|--|

| National Category | Employment (1000 years FTE) | | |
|---|-----------------------------|-------|-------|
| | 1990 | 2000 | 2005 |
| National Administration of Forests | 46472 | 38337 | 25695 |
| Forest Research and Management Planning Institute | 1185 | 426 | 462 |
| Forest logging | 32800 | 32800 | 32800 |
| Private forest districts | 0 | 0 | 2011 |

19.3 Data

Table 19

| Category | | Employment (000 years FTE) | | | |
|---|------------------------|----------------------------|------|------|------|
| | | 1990 | 2000 | 2005 | 2010 |
|  | Employment in forestry | 78.5 | 70.5 | 59.8 | 41.3 |
|  | ... of which female | N/A | N/A | N/A | N/A |

19.4 Comments

| Category | Comments related to data definitions etc | Comments on the reported trend |
|------------------------|---|--------------------------------|
| Employment in forestry | The data for the years 1990 and 2000 are rough estimates as long as the number of staff working in wood logging and production of industrial roundwood was considered constant (the same as for 2005) as no other information was available. More accurate information is available concerning staff working in forest management | N/A |

| Other general comments to the table |
|-------------------------------------|
| N/A |

20. What is the contribution of forestry to Gross Domestic Product (GDP)?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

20.1 Categories and definitions

| Category | Definition |
|---|--|
| Gross value added from forestry (at basic prices) | This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging). |

20.2 Data

Table 20 (Pre-filled data from UNdata/EUROSTAT)

| Category | Million | Currency | Year for latest available information |
|---|---------|------------------|---------------------------------------|
| Gross value added from forestry (at basic prices) | 2794.5 | New Romanian Leu | 2011 |

20.3 Comments

| Category | Comments |
|---|----------|
| Gross value added from forestry (at basic prices) | N/A |

Other general comments

| |
|--|
| |
|--|

21. What is forest area likely to be in the future

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

21.1 Categories and definitions

| Category | Definition |
|--|---|
| Government target/aspiration for forest area | Government target/aspiration for forest area for a specific year. |
| Forests earmarked for conversion | Forest area that is allocated/classified or scheduled to be converted into non-forest uses. |

21.2 National data

21.2.1 Data sources

| | References to sources of information | Variables | Years | Additional comments |
|---|--------------------------------------|--|-------|---|
| 1 | Forest Code/2008 | Government target/aspiration for forest area | 2008 | An area of 2 million ha - to be afforested by 2035, on land with previous destination other than forest |
| 2 | National Afforestation Programme | Government target/aspiration for forest area | 2013 | Due to financial reasons, the target has been adjusted to about 412 thousand ha to be afforested by 2035. The institution responsible for National Afforestation Programme compilation/review is the Department of Waters, Forests and Pisciculture in the Ministry of Environment and Climate Change |
| 3 | N/A | N/A | N/A | N/A |
| 4 | N/A | N/A | N/A | N/A |

21.3 Data

Table 21a

| Category | Forest area (000 ha) | |
|--|----------------------|------|
| | 2020 | 2030 |
| Government target/aspiration for forest area | 7000 | 7200 |

Table 21b

| Category | Forest area (000 ha) |
|----------------------------------|----------------------|
| | 2013 |
| Forests earmarked for conversion | 0 |

21.4 Comments

| Category | Comments |
|--|--|
| Government target/aspiration for forest area | Due to financial reasons, the target has been adjusted to about 412 thousand ha to be afforested by 2035 |
| Forests earmarked for conversion | N/A |

Other general comments

| |
|--|
| |
|--|