

Use and financing of forest ecosystem services in the Russian Federation



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Forest ecosystem service



- the use of environmental resources over a certain period of time;
- an environmental object or characteristic that is the end product, a product for which accounting measures have been established.



Benefit of using forest ecosystem services



- refers to the valuation of the environment by non-market methods where a human need is satisfied directly or indirectly (recreation, leisure, ecotourism, aesthetic pleasure, etc.).
- Benefits that humanity derives from ecosystems



Three main groups of forest ecosystem services in Russia



- productive services,
 - habitat-forming services,
 - information services
- and**
- recreational services which are integrated in nature and depend on ecosystem functions of all three first groups

Productive services



- Production by natural systems of biomass, which is extracted by humans from nature and used for various purposes
- 1. Wood products**
 - 2. Non-timber products of forests and other terrestrial ecosystems (mushrooms, Berries, nuts, bark, birch, medicinal, cosmetic, decorative, etc. decorative plants, etc.)**
 - 3. Forage production for livestock on natural pastures and hayfields**
 - 4. Products of freshwater ecosystems, especially fish**
 - 5. Game products**
 - 6. Honey production in natural areas**

Habitat-forming services



- Creating and maintaining an environment conducive to maintaining an environment that is conducive to human life and economic development
- 1. Climate and atmospheric regulation services
- 2. Hydrosphere services
- 3. Soil formation and protection services
- 4. Bioprocesses management services

Information services



- Useful human information and other intangible benefits.
- 1. Genetic and biochemical resources of natural species and populations
- 2. Information on the structure and functioning of natural systems,
- Information on the structure and functioning of natural systems that can be used by humans
- 3. The aesthetic and cognitive value of natural systems
- 4. The ethical, spiritual and religious importance of natural systems

Recreational services



- Creation of natural conditions for recreation, combining the components from the first three groups:
- The formation of natural conditions for the following types of recreation:
 - - daily recreation close to home
 - - Sunday leisure and picnics, cottage recreation, recreational fishing, mushroom and berry picking (not including professional non-timber products)
 - - educational tourism in nature
 - - Active outdoor tourism, sport fishing and hunting
 - - Health recreation at resorts (excluding seaside resorts)

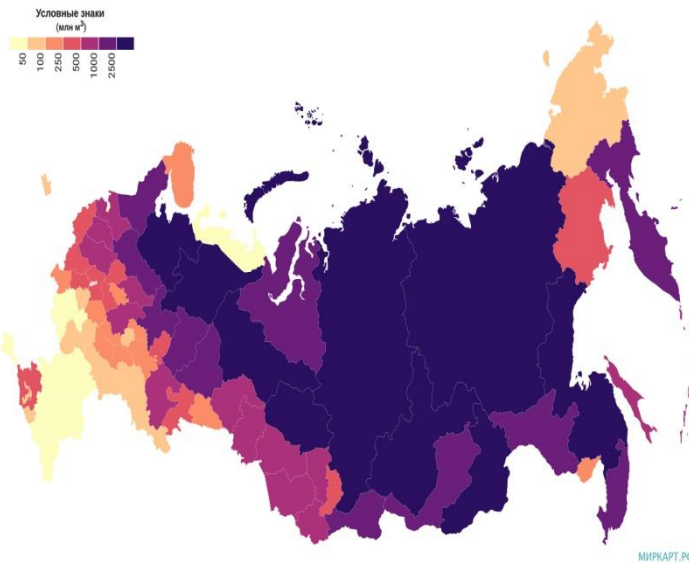
Productive forest services



Wood production: how is estimated in Russia



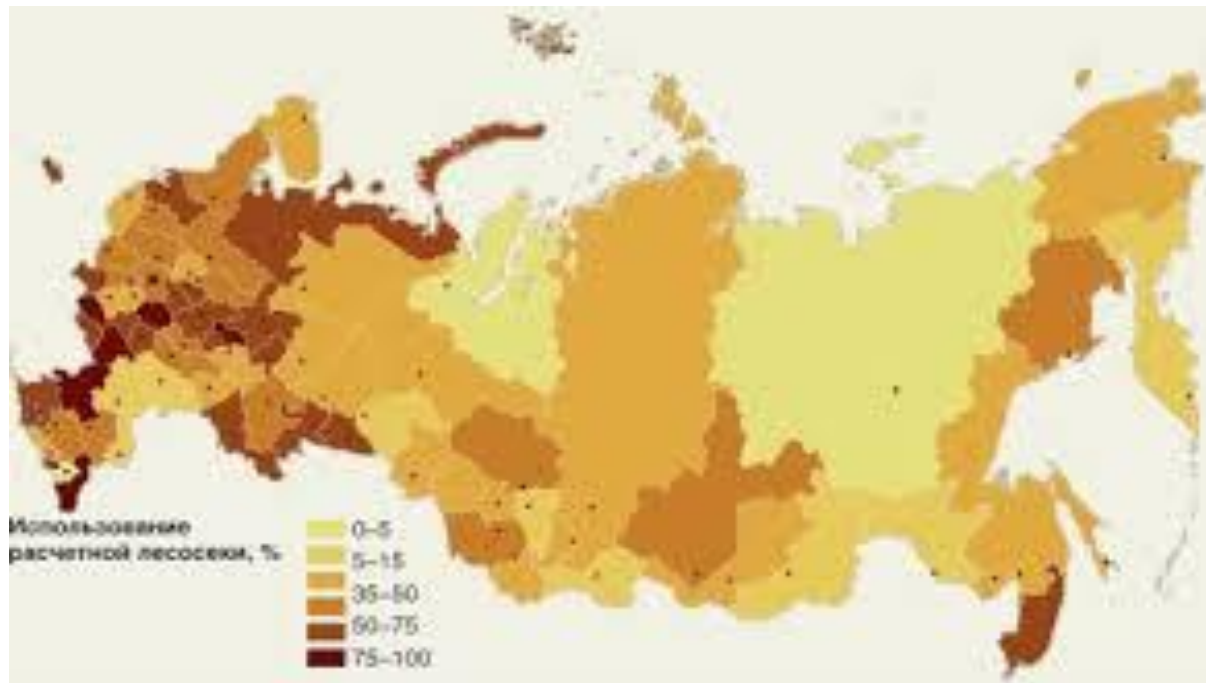
WOOD STOCK



ESTIMATED TIMBER CUT



Using of estimated timber cut



Dynamics of Russian forests



- Russia is experiencing rapid growth in its forest areas.
- Since 2010, the area of Russian forests has increased by 4.3 million hectares.
- Today, the current forest area, including forests in defence and security lands, specially protected areas and human settlements, is 1.1876 billion hectares.
- On average, there are **5.1 hectares of forest per capita in Russia.**

Positive changes in use of the forests



- While in 2010 there were 33,000 lease agreements in force, by 2020 there will be 77,000 agreements for non-timber purposes on nearly 57 million hectares.



The volume of productive services used



- Is expressed in the amount of timber harvested – both business and firewood.
- In 2020, the volume of timber harvested in Russia increased by 0.4% compared to 2019, reaching 220 million m³.
- At the same time, analysts estimate that the volume of timber for the domestic market was 204 million m³, while 15.6 million m³ went for export.

The factors that mostly influence on the forest harvesting companies in 2020 due to COVID



Источник: опрос ЕУ и АСБО

Estimation that is used for wood production



$$\mathbf{V}_{\text{provided}} - \mathbf{V}_{\text{used}}$$

For Russia: Unused residue
logging site

Non-wood forest products



- Non-timber resources are not usually identified as a separate resource and are classified as by-products of forest use.
- However, their value in some forest categories can exceed the value of timber
- For urban citizens in Russia the collection of mushrooms and berries has not only a commercial but also a recreational value.



Non-wood forest products



- Numerous food resources are harvested in Russia's forests(nuts, fruits, berries, mushrooms, birch sap etc.),
- The biological reserves of only the most common ones amount to 13 million tonnes.
- Exploitable reserves exceed 7 million tonnes
- 359 forest areas with a total area of 3.5 million hectares have been leased.
- Main territories Far East and Siberia

Exploitable reserves of non-wood forest products



ЭКСПЛУАТАЦИОННЫЕ ЗАПАСЫ ЯГОД



Estimation of use of non-wood forest products



V provided-**V** used

For Russia max use of such services is about 20-23%

V provided



- The forest inventory is responsible for estimation of non-timber resources, but they are classified as "secondary use" and are not subject to detailed accounting.
- The forest inventory determines the possible and actual annual volume of non-timber forest resources harvested.
- Food forest resources and medicinal plants (in accordance with the norms of the regional forest taxation book) are reflected in the forest plan of the constituent region and in the forest management regulations of forest management units.

Methodical recommendations how to estimate non-wood forest resources



- The minimum rate of forest taxes and rents for the use of forest resources for the harvesting of non-timber products is determined by the market price of the raw material, the production cost and the normative profitability of the harvesting of the raw material.
- **BUT** reliable data on the value of resources and the location of non-timber plant material are available not for all regions .

V used



The volume of service used corresponds to the volume of harvested non-wood forest products (legal and illegal)



Hunting resources Russia



- V used- calculation is based on the amount of hunting resources
- The area of hunting grounds of the Russian Federation in 2017, according to the Ministry of Natural Resources of Russia in 2017 was 1,595,221.87 thousand hectares, or 93% of the country's territory.
- Out of the total area of public hunting lands 55% (878 917.96 thousand ha), fixed hunting lands - 45% (716 303.91 thousand ha).
- Since 2010 the area of fixed hunting lands of the Russian Federation has decreased.
- Since 2010 the area of the Russian Federation's assigned hunting lands has decreased by 34 million hectares (or 4.8%)

The dynamics of hunting resources in Russia



- The analysis of the available data on the state and dynamics of hunting resources of the Russian Federation shows that the majority of game species hunting animals are characterized by stable number and has a tendency for the population growth.
- However, the growth rates of the most important species of ungulates do not correspond to their biological productivity and amount to only 1-3% per year. The actual number of many of the most important game species may be The actual number of the most important game species can be considerably higher than the current number, because the ecological capacity of game areas for the majority of species has a considerable potential.
- Comparatively low growth rates of the number of the most economically valuable hunting species (first of all, wild ungulates) is determined by a considerable level of illegal hunting and a high number of wolf, which at the moment is the maximum for the whole history of monitoring

Hunting resources in Russia



- According to the state hunting registry, in the Russian Federation in 2017 there were:
 - 1,065.7 thousand elk, 1,061.9 thousand wild reindeer, 1,027.7 thousand roe deer, 284.1 thousand wild boars, 273.8 thousand red deer, 245.1 thousand brown bears, 56.9 thousand wolves, 1.5 million sable, 665.1 thousand beavers, 492.1 thousand foxes, 3.3 million hares, 5 million wood grouse, 13.3 million grouse, 19.5 million grouse,
 - 815.5 thousand pheasants

V used in hunting recourses In Russia



- There is practically difficult to calculate the Vused in hunting recourses.
- It is possible to do approximate estimation of use of hunting recourses

In Russia

hunting recourses are used on a very low level



Thank you for your attention!

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