

The use of non-wood forest products and forest tourism in Belarus

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Abstract. The aim of the research was to review the legal and regulatory framework that controls the use of non-wood forest products and tourism in forests in Belarus and to analyze current information on harvesting of non-wood forest products such as berries, mushrooms, birch sap, honey, medicinal plants, and minor forest resources as well as to study the state of ecotourism in the territory of the forest fund. We demonstrated that the legal base needs to be improved. In particular, the taxes should be redistributed from economic entities involved in collateral forest use to the Ministry of Forestry that manages the forests. Despite the increased anthropogenic impact on understory layers and the adverse global climatic changes of recent decades, the productive capacity of non-wood forest resources in Belarus remains significant. Nevertheless, the resources are not exploited appropriately, although the demand for products in the domestic and foreign markets is consistently high. In this regard, it is necessary to create suitable conditions for stakeholders, including those possessing foreign capital, to participate in economic activity, whilst preserving the coordinating and controlling functions of the Ministry of Forestry as it is the main forest fund holder in the country. Efforts are also being made to develop infrastructure for ecotourism in forests. However, the level of marketing activities aimed at promoting and providing consumers with available tourist products and services does not meet modern requirements.

Keywords: Non-wood forest products, tourist forest resources, legal and regulatory framework, conditions and problems of the use

1. Introduction

The aim of this elaboration is the presentation of the scale of use of non-wood forest products and touristic use of forests in Belarus.

The research was conducted in two stages. In the first stage, we searched for legal documents concerning the use of non-wood forest products and touristic resources of the forest. In the second stage, we collected, processed and analysed the information reflecting the condition and development of this part of forest management in Belarus. The main sources of information were Ministry of Forestry (further: Ministry) and Ministry of Natural Resources and Environment Protection of the Republic of Belarus. The elaboration also used the data from the authors' other publications and the information collected from the colleagues who are dealing in these fields professionally.

Forest ecosystems of Belarus cover 39.8% of the country's territory and wood resources, this number amounting

to 1.796 billion m³. In 2017, forest divisions subjected to the Ministry harvested timber to the level of 17.9 million m³.

Wood is not the only type of forest production of real significance for economy. For instance, in the mid 80s in the forest divisions of Wołyń region (Ukraine), the income from non-wood forest products amounted to 30% of general income (Teliševskij, 1986). The research conducted in Lithuania shows that the monetary value of food forest products is relatively high, and in some types of ecosystems, it even exceeds the value of wood (Budrúnene, 1978, 1982, 1983; Mizaras et al., 1985).

The development of forest management in Belarus is defined by the conception of sustainable forest management, with its main assumption being the complex use of forest (Bagirov et al., 2016). This expression, according to the authors, should be understood as maximum use of both wood and non-wood forest resources.

Biological resources of collected fruits (rabbiteye blueberry *Vaccinium myrtillus* L.; small cranberry *Oxycoccus*

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palustris Pers., bog bilberry *Vaccinium uliginosum* L.; lingonberry *Vaccinium vitis-idaea* L.; apple tree *Malus sylvestris* (L.) Mill.; pear *Pyrus pyraeaster* (L.) Burgsd.; rowan *Sorbus aucuparia* L.; besides nuts *Corylus avellana* L.; for which collection is not included due to its small resources) in the forests of Belarus amounts to around 50 thousand tons a year, edible fungi – around 60 thousand tons, herbs – around 63 thousand tons, birch sap – 480 thousand tons (Grimaševič, 2002; Baginskij et al., 2007). Honey-producing plants present in the forests are a good base for apiculture and beekeeping. Hunting grounds cover the area of 17.7 million ha. In Belarus, there are 50 species of game.

Belarus, situated in the central part of Europe, is extremely diverse in terms of unique natural environment landscapes and different ecosystems that create conditions for development of ecotourism. In Belarus, lakes that are surrounded by forests are a property of the State Forests. According to the data from the Ministry, the area of water objects amounts to 72 thousand ha. It is over 10 thousands of picturesque lakes, but also unique, undrained wetlands of different types. Bogs cover around 6% of forest grounds and are a focus of attention of tourists as a purpose of trips, hunting, collection of forest fruits and medicinal plants.

2. Legal and normative base regulating rules of use of non-wood and tourism resources of forests in the Republic of Belarus

In 2015, the New Forest Code of the Republic of Belarus (Lesnoj kodeks... 2015) came into force. This law regulates forest management. Article 37 of the Code defines the following types of forest use: wood harvest, resin collection, secondary forest resources (stumpwood, birch bark, trees' branches, bast and bark, Christmas trees), and also the use of non-wood forest products, use of forest for research, scientific and educational purpose, also touristic, healing, cultural and recreational purposes. Authors do realize that in Polish terminology, the definition 'secondary forest resources' does not exist; however, in forest management and forest law of Belarus mentioned above, resources are defined using this very definition.

The Code lists the following types of forest use of non-wood forest products: collecting juice from trees; picking wild fruits and fungi; picking wild plants and their parts; collecting moss, forest litter and fallen leaves; putting apiaries; mowing meadows; cattle grazing; collecting medicinal plants and others from specialized forest plantations; use of wild forest plants for decoration.

The citizens of the Republic of Belarus can, free of expense or without any permission, meet their needs in terms of:

- collecting wild fruits and fungi, forest litter and fallen leaves;

- collecting juice from trees, picking wild plants, moss – with the exception of plants and fungi listed in the Red and narcotic plants.

Collecting trees' juice and moss is permitted only in areas designated by the forest division's employees. Putting apiaries, mowing meadows and cattle grazing is free of charge but after obtaining special permission. In contrast, private persons, enterprises exploiting non-wood products are obliged to obtain special permission for entrance to the forest and make a payment according to the price-list.

Enterprises that collect and purchase wild plants, fruits and fungi should obey the provisions contained in the following legal acts:

- Law of the Republic of Belarus 'On Flora' (Zakon... 2003);
- Regulations on granting rights for special use of flora objects and notifying local executive and administrative authorities about planned actions related to the purchase of wild plants and (or) their parts (Položenie... 2011)
- Forest Code of the Republic of Belarus (Lesnoj kodeks... 2015);
- Regulations on collection of tree juice, harvesting, purchase of wild plants and (or) their parts (Pravila... 2016a);
- Regulations on collection of stumps, trees' juice, setting up plantations of fruit-bearing plants and other forest plantations and cultivation of medicinal and other plants, their acquisition and collection (Pravila... 2016b).

Development of apiculture is regulated by special rules from different legal acts and in laws: 'On veterinary actions' (Zakon...2010), 'On quality and safety of food materials and products' (Zakon... 2008), 'On plant protection' (Zakon... 2005), 'On selection in animal breeding' (Zakon... 2013) and others.

Legal basis for tourism is regulated by the National Strategy for Sustainable Socio-Economic Development of the Republic of Belarus until 2030.

Ecological tourism is regulated by the following legal acts:

- Regulation of the Council of Ministers 'On approval of model contract for the provision of tourism services' (Postanovlenie... 2006);
- Law 'On introducing changes and corrections to some codes of the Republic of Belarus regarding administrative responsibility for violating the law in the sphere of ecotourism' (Zakon... 2007);
- Regulation of the Ministry of Taxes and Duties of the Republic of Belarus 'On approval of model contract regarding information on service agreement in the sphere of ecotourism, included in previous year' (with changes and additions) (Postanovlenie... 2011).
- Law: 'On tourism' (Zakon... 2016);
- State Program 'Hospitable Belarus' for years 2016–2020 (Gosudarstvennaâ... 2016).

In 2006, the Ministry of Natural Resources and Environmental Protection elaborated a list of natural monuments, landscape groups and objects of fauna and flora in order to include them into tourist routes for diversification of groups of visitors. In 2008, the Ministry elaborated and confirmed ‘Recommendations for development of ecotourism in forest management of Belarus’. Despite this, in Belarus, there are still some full-time employees in its western parts, that are dealing exclusively with ecotourism. This document is addressed also to hunting farms and to small and large travel agencies. It defines projects dedicated to the development of ecotourism and rules for cooperation of forest divisions with tourists and tourist organizations. Regulated were criteria for evaluation of ecotourism and sources of funding its development (Rekomendacii... 2008).

In 2014, the ‘Recommendation for use of natural heritage objects and cultural and historical objects in system of ecotourism of the Ministry of Forestry of the Republic of Belarus’ was elaborated and approved. This document included issues like identification of objects in forest environment, their systematization, record, monitoring and preservation, complex evaluation and its use for ecotourism development purpose (Rekomendacii ... 2014).

3. The use of non-wood and touristic forest resources

In the field of use of forest research, there are concepts of biological and exploitation resources. It is assumed that exploitation resources of fruit and fungi estimate around 50% of biological resources (Grimaševič, 2002).

Among fruit resources dominates rabbiteye berries – 33 thousand tons (66% of resources of all basic species), second is cranberry – 11.2 thousand tons (22%), the smallest of mentioned are resources of rowanberry (1.1 thousand tons – 2.2%) and bog bilberry (1.3 thousand tons – 2.6%) (Grimaševič et al., 2005; Grimaševič, 2006). Exploitation resources of fruits in forest states of Belarus amount to 20.5

thousand tons. The largest economic significance has berry crops: rabbiteye blueberry, small-fruited cranberry, bog bilberry and lowbush blueberries, whilst among fruit-bearing plants – rowan. Local population living next to forests picks also wild strawberry *Fragaria vesca* L., wild raspberry *Rubus idaeus* L., blackberry *Rubus caesius* L., stone bramble berry *Rubus saxatilis* L. and some other species for their own needs. Exploitation resources of fungi amount to 25.2 thousand tons, and collected are over 20 species.

Majority of the collected fruits and fungi comes from the purchase from local populations. There is Union of Consumer Societies in the Republic of Belarus that operate especially on rural areas and organize the trade, but also the purchase of plant agricultural production and forest production (non-wood forest resources). Around 100 regional Consumer Societies operate in the country (marked as organizations in Table 1). There are seasonal purchase points in the local stores of almost every bigger village set up. Consumer Societies may process purchased fruits and fungi in their own works and sell it in their own shops. Products are also bought by private enterprises, usually for export to other countries, most often to Poland and Lithuania. Part of the products are being exported by Consumer Societies themselves. The above-mentioned forest products are bought from the local population also by private enterprises. That is why certain competition exists between the Societies and private enterprises. It should be emphasized that Societies and private enterprises as well as forest undertakings (forest divisions, forest districts) rarely obtain those products in larger quantities on their own, as presented in Table 1.

There is practically no industrial harvesting of fruits and fungi. The vast majority, as mentioned earlier, is purchased from the local population (96–99% of whole mass) in the way described earlier. According to the averaged data from many years, the participation of the Ministry in fruit production amounts to almost 1% (Morozov, 2015b).

The maximum fungi (Fig. 1) was purchased in 2016 in the Grodno region (46% of all mass purchased in the coun-

Table 1. Collection of mushrooms, berries and other fruits in Belarus in 2016

Product category	Purchased					Harvested by organizations	Total	
	from public		from organizations		total			
	tonnes	[%]	tonnes	[%]	tonnes			
Mushrooms	5 270.5	99.4	33.3	0.6	5 303.8	0.3	-	5 304.1
Berries	16 126.4	96.0	461.9	2.7	16 618.3	164.9	1.3	16 783.2
Other fruits	345.9	27.0	936.9	73.0	1 282.8	-	-	1 282.8

Source: own elaboration on the basis of the Ministry of Natural Resources and Environmental Protection

try), fruits of berry crops (rabbiteye blueberry and small-fruited cranberry) – in Minsk and Brest region (respectively 30% and 28%), other fruits – in Minsk region (79%).

In total, the mass of all purchased fungi chanterelle *Cantharellus cibarius* Fr stated 97%. Remaining 3% stated common flap mushroom *Boletus edulis* Bull. and other species. Generally, in the country, on an average 21% exploitative resources of fungi were used. In reference to chanterelle, this indicator amounts to 45%. Also, fungi and berries collected by people for their own needs should be taken into account. It is estimated that every year people collect 8.272 tons of fungi and 4.376 tons of berries for their own needs (Baginskij et al., 2007). In this situation, a percent of the used exploitive resources of fungi increases to 54%, while in reference to chanterelle – to 90%. Rabbiteye blueberries are the most popular and easily accessible. In 2016, 15.882 tons of rabbiteye blueberries was purchased, which constitutes 94% of the quantity of all the collected berries of all species. The share of use of exploitative reserves of rabbiteye blueberry amounts to 82%, and when berries collected by people for their own needs are also included, it can be stated that its reserves are being used in full (Baginskij et al., 2007; Truhonovec et al., 2008).

Collecting trees' juice in industrial quantities is being carried out in Belarus since 1967. Mostly forest districts are responsible for this. Profitability of this venture is relatively high and amounts to 17–24%. It is a good economic motivation for forest districts and it has been observed that in some years, the decrease in amount of collected juice is caused due to unfavourable weather conditions (Fig. 2).

A leader in birch sap collection is State Production Forestry Association (further SPFA) (Fig. 3). In the Brest region, it is a traditional occupation. There are enough enterprises that buy juice for processing purposes.

The cited data indicates that juice collection does not extend 4–5% of its exploitative resources. According to the opinions of directors of some forest districts (unpublished data), the amount of collected juice could be increased at least twice. The limiting factor is the lack of bandwidth. In Belarus, juice for industrial process is purchased by around 30 enterprises. However, they are located unevenly in the country's territory. There are a few in the area of Witebsk and Gomel SPFA, therefore the level of birch sap is there very low. In recent years, many enterprises closed due to economic causes. That is why, every year, forest districts increase the amount of juice for sale to the population directly in the area of its collection. Its average price, in conversion, is around 10 dollars per 100 litres.

It is commonly known that apiculture guarantees preservation of natural ecosystems and biodiversity. Thanks to apiculture, people's needs are fulfilled, and realization of

apiculture on industrial scale may bring significant income. Plants' pollination by bees is of great significance in agriculture. Economic effects of pollination are, according to some data, over ten times higher than income from beekeeping production itself. Presently, in all forms of farms in Belarus, there are around 217 thousand bee colonies, where over 80% are in private hands. Minor individual productions are dominant, based on primitive technologies and focused only on satisfying the owner's needs.

Most apiaries are not capable of maintaining competitive production, not only in external market, but even in domestic market. They are small-sized, therefore it's hard to implement mechanization and majority of work done manually increases cost of production. According to the data from spring 2016, in the forest districts of the Ministry, there were around 9 thousand bee colonies and the production was 96 tons of honey. As shown in Figure 4, the maximum honey was produced in Brest and Minsk SPFA. Average productiv-

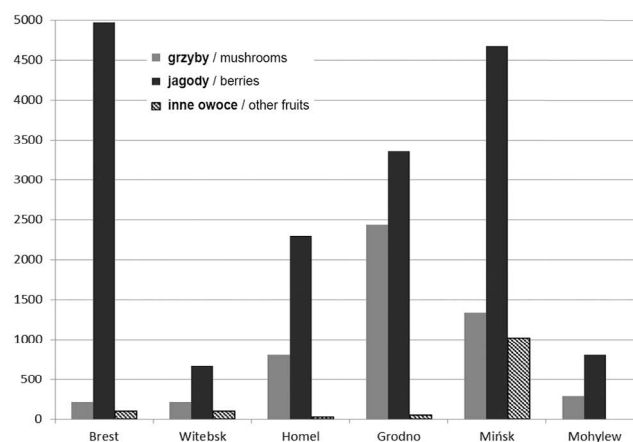


Figure 1. Collection of mushrooms, berries and other fruits by regions in 2016 (th. tonnes) on the basis of the Ministry of Natural Resources and Environmental Protection

Source: own elaboration on the basis of the Ministry of Natural Resources and Environmental Protection

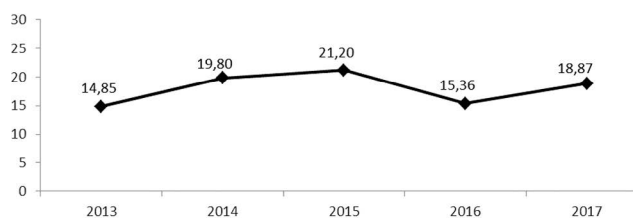


Figure 2. Collection of birch sap for the Ministry in 2013–2017, th. tonnes

Source: own elaboration on the basis of the Ministry

ity of bee colony amounts on an average to 13 kg per year. Leaders in this field are Orszańskie (30.8 kg), Głuskie (30.7 kg), Tołoczinskie (30 kg), Uszaczskie (26.5 kg), Łojewskie (26.4 kg) and Mohylewskie (26.4 kg) forest districts. For comparison, in Poland where apiculture is well-developed, in 2016, from one bee colony, the amateur beekeepers collected 16.5 kg of honey. In industrial apiaries on the other hand, 31.8 kg honey was collected (Semkiw et al., 2017). Honey production in forest districts is on the border of profitability, due to the dumping of producers from Russia, Ukraine and especially China. In the last case, it is often related with low quality of the product.

In modern world, pharmaceutical phytopreparations constitute around 40% of all drug assortment. The number of registered Belarus herb preparations exceeds 300. However, majority of materials used for their production is imported. Belarusian pharmaceutical companies spend significant money on the purchase of not only plant materials but also other components for herbal medicine production (on average, annually around 35 tons for 1.790 million dollars). The share of native production of these components amounts to only 3–7%. At the same time, it should be noticed that three fourth of the bought herbs can be grown or their production can be implemented in Belarus, while biological resources of herbs, as noticed above, amount 64 thousand tons (Baginskij et al., 2007).

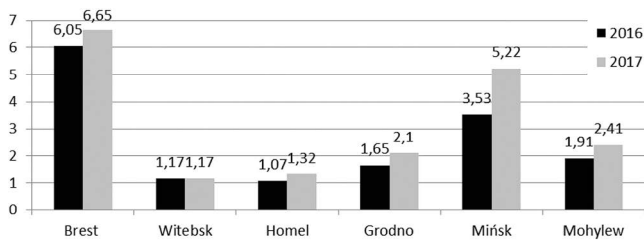


Figure 3. Collection of birch sap by the State Production Forestry Association of the Ministry in 2016–2017, th. tonnes
Source: own elaboration on the basis of the Ministry

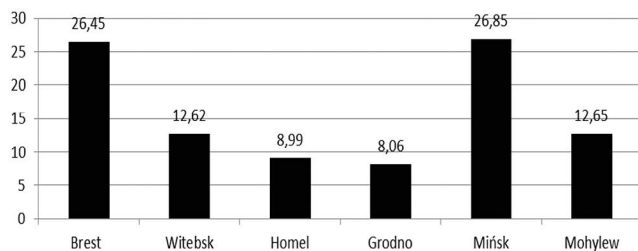


Figure 4. Collection of honey by the State Production Forestry Association of the Ministry in 2016, th. tonnes
Source: own elaboration on the basis of the Ministry

In Belarus, only 55–60 species of herbs are acquired; among those, 10 most wanted constitute on average 77%. These are i.a: linseed *Linum L.*, glossy buckthorne bark *Frangula alnus Mill.*, calamus rhizome *Acorus calamus L.*, lowbush blueberry and common bearberry leaves *Arctostaphylos uvaursi (L.) Spreng*, herb of tutsan *Hypericum perforatum L.*, oak's bark *Quercus robur L.*, dog rose *Rosa canina L.* and rowan fruit, wild rosemary shoots *palustre L.* (Doroškevič, 2008). It is visible that all plants, beside lin, are very common in the forests of Belarus. In constant demand among consumers are also typical forest species, that is, flower of linden *Tilia cordata Mill.* and herb of thyme *Thymus serpyllum L.* Collection of those and other species is not complicated and with proper control of the country's authorities, damages in biodiversity can be minimalized. It can be achieved by developing the rules of collecting herbs based on the knowledge of species' biology and possibilities of regeneration of plants localizations (Morozov, 2001).

The most important reason for low level of organization of herbs collection is the lack of properly equipped purchase points within the Ministry's structure. Such a solution could help organizing the purchase of medicinal plants growing wild and provide their certification. Additionally, for different reasons, every year the number of people capable of collecting medicinal plants growing wild is decreasing.

According to the statistical data of the Ministry of Natural Resources and Environmental Protection, in 2016, 181 tons of herbs was purchased, which is 23% less than in 2013 (out of which, 71% was purchased from people). That constitutes 0.3% of exploitative resources. Presently, forest districts practically do not run any purchase of medicinal herbs. The most known industry specializing in industrial cultivation of these plants is 'Bolszoje Możejkowo' in Grodno region.

According to Article 37 of Forest Code of the Republic of Belarus to the category of secondary forest resources included are branches, which are then turned into household brooms and bath brooms and also Christmas trees. Noticed should be, that in comparison to fungi and fruits, no additional costs nor specially equipped purchase points are necessary. Market is stable, therefore every year significant quantities of secondary resources are acquired (Table 2). Forest districts sell Christmas trees directly to people and demand for them is high. Forest districts localized near the Russian border partly export young trees there.

As Table 2 shows, forest districts of Mogilev and Minsk SPFA are leaders in household brooms production; Minsk – bath brooms. Christmas trees are of great demand in Minsk, Grodno and Vitebsk region. Wider use of needles is necessary for the process purposes, that is, for the production of prophylactic medicinal extracts. In Belarus, only one private enterprise 'Chwoinka' produces such an extract. There was 156.77

tons (Table 2) of needles acquired in 2016, while its resources in the country are estimated at around 113 thousand tons.

Ecotourism allows meeting increasing needs of all social groups, mainly residents of cities, for direct contact with nature, relax and health improvement. It is relatively well-developed in areas covered with special protection (Białowieża National Park, Pripiatskij National Park, Naroczanski National Park, Brasławskie Lakes National Park, Bierezinski strict biosphere reserve, Dniepro-Sożskij, Wydrlica, Smyczok, Zwaniec, Jelnia nature reserves and others). In National Parks, reserves and strict reserve created around 40 routes. Over 600 eco paths were created by institutions educating children and youth. More than 80 of them were included in the list of ecological routes and paths approved by the state authorities (Ermonina, Dovžik, 2008).

91 luxuriously equipped hunting houses were built in the hunting farms, which can not only host hunters, but also tourists. They are equipped in special platforms for wild animals observations, and for enthusiasts of active walks on ecological paths specialized sports equipment was bought.

Out of 97 forest districts, 54 (57%) faced problems with organization of ecotourism. On their territory, they created 70 routes and ecological paths. National Academy of Sciences 'Forest Institute of the National Academy of Sciences of Belarus' made a complex evaluation of 603 objects of natural, historical and cultural heritage in the forests of Brest and Gomel SPFA. Database of objects of such heritage was created for the Polesie region. It contains information regarding 35 forest districts, which will be used in order to create new touristic and excursion routes (Ermonina, Dovžik, 2008; Ermonina, 2009).

4. Summary

Existing legal framework, regulating rules of use of non-wood and touristic forest resources are sufficient, though require some improvement and updating (Morozov, 2015a). The disadvantage of these provisions is, for example, lack of redistribution of taxes on business entities of different forms to Ministry, on the territory on which the given subjects use non-wood forest products. The legal framework for the use of non-wood and touristic forest resources by commercial structure and private entrepreneurs, including foreign enterprises (taxation, long- and short-term leasing, licenses, concessions, forest auctions, purchase and sale contracts etc.) was not developed in proper range.

Despite increased anthropogenic influence on forest litter and unfavourable global climate changes in the past decades, the potential of non-wood forest resources in Belarus is still very significant. Analysis of its present state of use indicates usefulness of presence of business entities of different forms of properties, including those with foreign capital, which needs further development in terms of legal framework. Coordinator of such activity should only be the Ministry of Forestry, which is the main administrator of forests in the country, bearing additional costs related to protection and forest management (Morozov, 2015b).

Forest districts lose to private enterprises due to lack of flexibility in price politics for product purchase. Additionally, there isn't sufficient working capital. Insufficient financial investments led to the situation where within the Ministry's system, there is practically no permanent network of pur-

Table 2. Collection of minor forest resources and the production of these products in Belarussian Forest Districts in 2016

The name of a State Production Forestry Association	Product name			
	household broom [thousand pieces]	bath broom [thousand pieces]	pine bough* [tonnes]	New Year tree [thousand pieces]
Brest	6.41	-	-	4.11
Vitebsk	19.23	7.15	-	27.82
Gomel	17.22	3.3	-	11.01
Grodno	14.12	4.17	-	28.77
Minsk	34.01	14.92	156.77	33.87
Mogilev	50.90	7.79	-	15.84
Total	141.88	37.33	156.77	121.42

Source: own elaboration on the basis of the Ministry

*pine bough – coniferous twigs are young softwood shoots sniped off from coniferous trees. They are used as a raw material to produce vitamin flour, chlorophyll-carotene paste, essential oil and other products (Forest Encyclopedia 1985).

chase points for non-wood forest resources and no modern equipment (for instance: blast freezers for berries).

Presently, in Belarus, the forest districts' actions regarding the use of non-wood forest resources are not effective. There is a need for new organizational impulse followed by targeted financial investments. According to our forecast, mass of collected berries (rabbiteye berry, small-fruited cranberry, bog bilberry and lingonberry) in the country will increase by 12% by 2030. This will be caused probably due to an increase in the collection of lingonberry – by 15% (Morozov, Grimaševič, 2017).

The basis of this assumption is the equalization of age structure expressed in the increase of share of mature and old-growth forest stands. It is commonly known that in forest stands of this kind, the amount of rabbiteye berries is the largest. Therefore, according to the data from the Ministry, the area of mature forest stands and old-growth forest stands increased from 350 thousand hectares to 1 million 215 thousand hectares in years 1994–2018 (<https://www.mlh.by/our-main-activities/forestry/forests/> Accessed 11.02.2019). Another factor favouring increase in the amount of rabbiteye blueberries is the decrease in the share of clearcuttings in favour of the shelterwood system and stepwise cutting (Strategičeskij plan... 2014).

It should be taken into account that despite climate warming, conditions for rabbiteye blueberry growth in the forests of Belarus remain favourable. On the other hand, ecological and physiological range of small-fruited cranberry, bog bilberry and lingonberry decreased what causes the reduction of resources of these species of berries (Grimaševič, 2002; Morozov, 2006).

Rabbiteye blueberry is not grown in plantation conditions, that is why demand for it abroad is permanently high. According to Consumer Associations, 90% of berries are exported, and only 10% are sold in Belarus (http://lesgazeta.by/news_feed/belarus/belko-opsojuz-rasskazal-o-zakupochnyh-cenah-na-griby-i-jagody/2019). Above facts indicate that in future, rabbiteye blueberries will remain the most important fruit resource among the berries in the forests of Belarus.

Demand for chantarelle remains high abroad, therefore, the prediction can be increased in size of the collection of this species of fungi. Its exploitation may approach to the limit of biological resource number.

Collection of birch sap very much depends on the processing capacity of processing enterprises: as much sap will be collected as can be processed. Sap sale for local population will increase, but not significantly.

Honey production in forest districts in Belarus in five years from 2011 to 2016 has increased to 192.3%, that is, from 61.3 tons to 117.9 (Celitan, 2016). In 2016, the 'Program for apiculture development within Ministry of For-

estry organizations for years 2016–2020' was adopted. It is planned that until 2020, from one bee colony, annually at least 20 kilograms of honey will be collected. The number of bee colonies will be optimized – up to 70 per apiary. However nowadays, in the country, the small apiaries dominate, which are not sufficient in terms of production even for the domestic market. Presently, Belarus is an active importer of honey and honey-related products from the world market.

Not expected should be significant progress towards increase in the collection of wild medicinal products. There is practically no network of purchase points (earlier pharmacies purchased such products, now they don't), and modern generation in the working-age has no culture and knowledge on collecting medicinal plants. Another problem is that in order to use medicinal product, its certification is necessary and that requires creating expensive labs. Pharmaceutical companies find it easier to buy a product that is already certified abroad.

Only slight fluctuations of size of collection of secondary forest resources are expected in the future. Much depends on the entrepreneurship of managers of forest districts. Their capability of searching interested consumers, within the country and also abroad.

Not all touristic resources are being used properly. Many of them have not been included into touristic infrastructure, although Belarus has a good potential for the development of ecotourism based on forest resources. Not only on sites covered with special protection but also in forest districts. Regulated ecotourism is one of the most gentle and cheapest forms of nature management. On the other hand, unregulated tourism definitely has a negative impact on the environment. The rank of ecotourism significantly decreases the insufficiently developed transport and service infrastructure (lack of camping, campsites, etc).

Advertising and information-giving actions are not realized on proper level and at an appropriate scale, which, if done properly, would promote touristic product on domestic and international markets (Kovbasa, 2015). Business integration with neighbouring countries, strengthening of partnership will allow more effective use of ecotourism potential.

Conflict of interest

The authors declare lack of potential conflicts.

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Authors' contribution

- A.M., N.K. – research concept, review of literature, writing the manuscript, correction.