

## CURRENT STATE AND PROSPECTS OF PETERHOF WATER CONDUIT Egorov D. (Russian Federation)

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**Abstract:** *this article discusses about the water-supply system of Peterhof fountains, which is a hydraulic structure of the first quarter of the XVIII century and located both on the territory of the two subjects of the Russian Federation: Saint-Petersburg and Leningrad region. An evaluation of the current state of water supply system and identifies features are also described in this article. As part of the study identifies the most pressing problems of the construction, it suggests ways to address them, as well as the prospects of use for recreation.*  
**Keywords:** *Peterhof, fountains, water supply system, waterworks, St. Petersburg.*

## СОВРЕМЕННОЕ СОСТОЯНИЕ И ПЕРСПЕКТИВЫ ИСПОЛЬЗОВАНИЯ ПЕТЕРГОФСКОГО ВОДОВОДА Егоров Д. П. (Российская Федерация)

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**Аннотация:** *в данной статье рассматривается Петергофская водоподводящая система фонтанов – гидротехническое сооружение первой четверти XVIII в., расположенное одновременно на территории двух субъектов Российской Федерации: Санкт-Петербурга и Ленинградской области. Проводится оценка современного состояния водоподводящей системы, выявляются особенности. В рамках проведенного исследования определяются наиболее насущные проблемы сооружения, предлагаются способы их решения, а также перспективы использования в целях рекреации.*  
**Ключевые слова:** *Петергоф, фонтаны, водоподводящая система, гидротехнические сооружения, Санкт-Петербург.*

Central to the main sights of Peterhof, which is considered the cascades and fountains, is water conduit, which was built in the first quarter of the XVIII century. The uniqueness of this masterpiece of engineering is that the water for the fountains is supplied by gravity from a higher location. In regard to the operation of the fountains don't need pumping mechanisms. Components of the Peterhof water pipeline – ponds and channels – to fit perfectly into the composition located thereon parks: Colonists, English and Meadow. For three centuries, this truly unique hydraulic structure serves as a source of drinking water for the population, but its main purpose – to deliver and store water for the operation of fountains, which are the main decoration of Peterhof palace and park ensemble [2].

Currently, the water-supply system of fountains consists of 37 major water bodies, including 9 channels, 12 rivers and streams and 16 ponds. The total length of all watercourses is more than 56 km, the area of water surface storage ponds – 97 hectares, and the total volume of water involved – 1411 thousand m<sup>3</sup>. The main catchment system is located on the territory of the Leningrad region, and the main water-regulating elements – ponds, sluices – on the territory of St. Petersburg. The uniqueness of this system consists in fact that it is the only artificially created water bodies in the list of objects of historical and cultural heritage [4].

If we consider the water line as an object of historical and cultural heritage, it is impossible not to wonder about the security of its borders. Today, due to the lack of a single administration in the water system is not the person responsible for overseeing compliance with the boundaries of water protection zone, which according to the Water Code of the Russian Federation are available for each water body [3].

Another problem is that some parts of the catchment area of water-supply system of Peterhof fountains transferred to private ownership and are exposed to active cottage building. Such economic development of land in the vicinity of the water conduit gives rise to new problems: in particular, its pollution by dumping of sewage and waste in the absence of proper treatment facilities. There is drilling wells in the aquifer adjoining areas for the use of water for household needs. Thus, the water fountains of Peterhof are both polluted and depleted [6].

It should be noted that the ring road also has a devastating effect on the fountain system. Ring Road passes near Shinkarskii pond, the main water distribution object, and made readily available conduit Peterhof for motorists who use the local water after washing their equipment. In addition, expensive system engineering structures developed during the construction of the Ring Road, designed to eliminate pollution from the transport conduit facility was completely ineffective [1].

From the positive side, it should be underlined that by 2035 this area is planned to be created as state nature reserve, which can provide ecological connectivity of ecosystems Leningrad region and St. Petersburg [5].

Among the measures that can preserve the unique natural and cultural monument of the Petrine era, we can offer a selection of protected areas, the increase in financial investments and transfer of land in the catchment area of the fountain agency state reserve Museum "Peterhof".

Despite the existing difficulties associated with this object, it is a considerable interest for the management of recreational use. On the territory of water supply system focused a lot of natural, historical and cultural sites. In this regard, there are prerequisites for the involvement of the territory of the conduit in the sphere of recreational activity. In particular, the most promising seen its use in excursion activities. There is promising the creation of nature trails, as well as the laying of bike trails along the highway culvert. These uses do not conflict with the rules of use of this monument as a World Heritage site, and therefore, it is possible to implement.

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