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## PAY IT FORWARD – ALIAS FROM WHICH IS THE PRŮHONICE PARK PRODUCING BIOMASS OF CYANOBACTERIA FOR THE HOSTIVAŘ WATER RESERVOIR?

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The UNESCO World Heritage Site – Průhonice Park is visited by hundreds of thousands of people annually. The view of the park ponds, however, has been immaculate in the past five years because it is covered by a continuous layer of cyanobacteria forming a water bloom. Park management has invested more than CZK 100 million in the restoration of landscape scenery and dendrological care, but smelly water elements in the park (the system of weirs, streams and reservoirs) are repellent. The survey of inflows into the park showed that the resources of the jump water quality deterioration are predominantly two: 1) the rapid growth of the population of the overloaded sewage treatment plant without tertiary treatment near the park; and 2) the increase in roofs, free-flow areas of satellite settlements and other buildings, including shopping zones. These sources are not only a major source of nutrients for cyanobacterial biomass, but torrential rainfall causes significantly higher hydraulic stresses for the flow channels. The subsequent floodplains and sediments settle in the ponds of Průhonice park and contribute in the season to massive development of cyanobacteria but also to long-term survival in the mud. Ponds in the Průhonice Park have served as a powerful pre-cultivation plant for the cyanobacteria, which was flushed to the Hostivař reservoir by the Botič stream in the last three years.

The problem needs to be addressed in terms of farming in the surrounding landscape. In 2015, therefore, the Institute of Botany commissioned a feasibility study on the design of real revitalization, flood and anti-erosion measures in the upper Botič catchment area. A part of the study was the recommendation of how to manage ecologically and nature-friendly stretches of watercourses and stretches (wetland remnants, preserved shores and alluvial forests or shrubs) and improvements in disturbed sections (kinking, straightening). This is a complex of organizational (eg compliance with Good Agricultural and Environmental Standards supporting sustainable farming), agro-technical (anti-erosion plowing) and technical measures (construction of dry tanks in all major watercourses of the Botič river basin, anti-erosion ditches, terraces, revitalisation of meandres), but their realization calls for the mutual cooperation of many entities.