**Project Update: July 2022**

We conducted an initial ecological survey of the terrains in the Tara Mountain during the first months of our study. We surveyed many areas in the Tara National Park, including natural habitats of Serbian spruce (Fig. 1). There are 12 populations located in the first regime of protection (Fig. 2), i.e., natural reserves, and one in the second regime of protection. Because the number of Serbian spruce specimens in reserves ranges from 1 (Gorušice) to 50.000 (Zvezda), their contribution (percentage) to forest communities varies from negligible (Gorušice, Aluška planina, Crveni potok) to significant (Zmajevački potok 34% and Bilo 38%).

Fig. 1. A view of the Serbian spruce. © J. Janković.

Fig. 2. An example of management in the First regime of conservation, Crveni potok. © Z. Popović.

We submitted a request for a research licence, and after an assessment by the Ministry of Environmental Protection of the Republic of Serbia, we were provided permission to conduct scientific surveys (License No 351-01-1319/2022-04, issued May 20, 2022, and valid for 2022).

We developed excellent cooperation with the authorities from the National Park Tara, Mrs. Milica Tomić, Assistant Director for planning, protection, and development, and Mrs. Marijana Josipović, Senior officer for nature conservation, who will join us in sampling over the summer months. We also gathered all relevant data on the history of fires on the territory of NP Tara. Mr. Marko Tomić, Forest Conservation & Wildfire Prevention Officer, provided evidence of wildfires from the year 2000 onwards.

From 2000 to 2021, there were about 50 fire events, with the highest frequency in the years 2000, 2007, 2015, and 2017 (13 fire events in 2017) (Fig. 3). In 2012, the most severe forest fire occurred, which burned almost 2600 ha of coniferous forest. It has been determined that: i) one fire event was a ground fire caused by a human factor, ii) 43 were surface fires caused by a human factor, lightning strikes or unknown cause (35, four and four, respectively), and iii) three fire events were crown fires caused by lightning strikes or wind-spread over the state board (two and one, respectively).

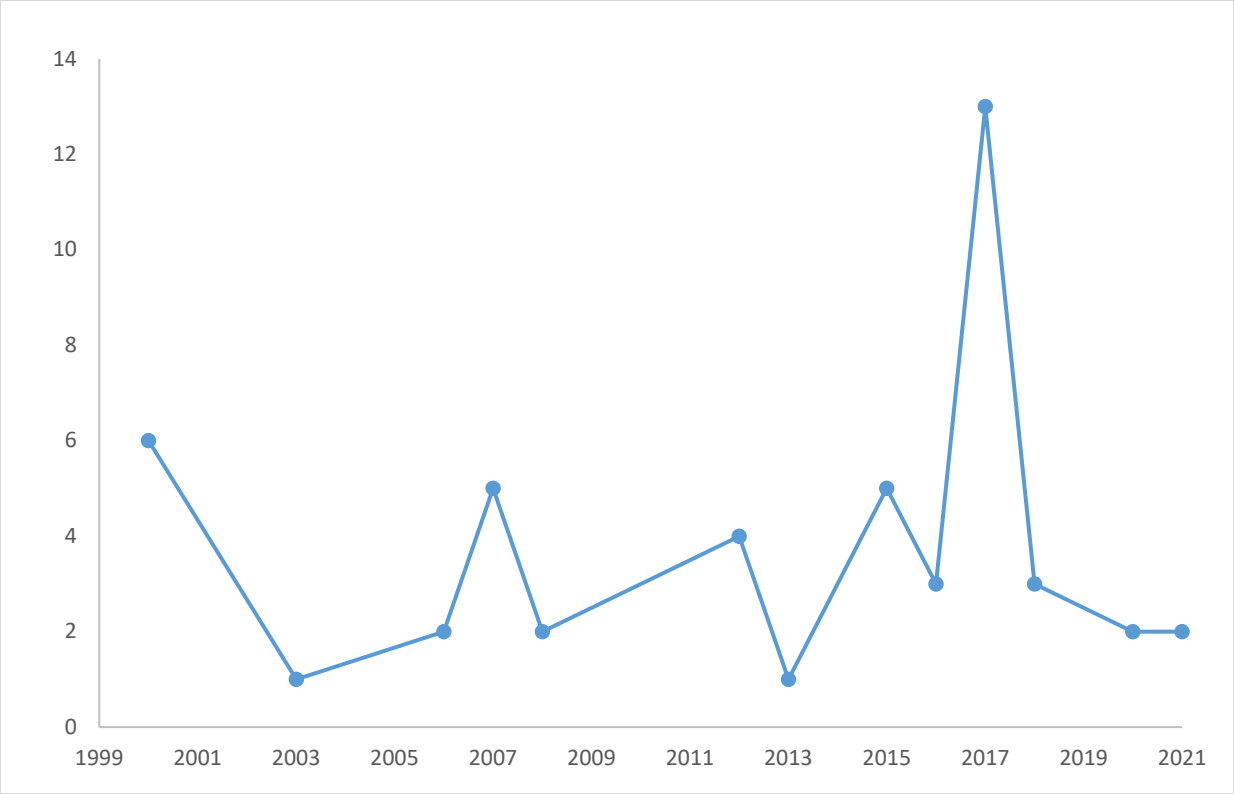

Fig. 3. The number of forest fires on the territory of NP Tara from 2000 onwards.

Six forest fires occurred in deciduous forests (beech, oaks), 13 occurred in coniferous forests (fir, spruce, pine), and the majority (30) occurred in mixed forests. The most abundant forest type on Tara Mt. is mixed three-dominant forest of beech, spruce, and fir (Fig. 4), which account for 85 % of forest area, with coexisting relict and endemorelict forest communities with Serbian spruce, black pine, and other tree species (primeval forests).

The most fire-prone areas (I degree of threat) account for 21.6% of the total area of NP Tara, and largely overlap with the localities inhabited by Serbian spruce. Preventive measures against wildfires are the ban on the use of open flames and numerous educational measures, however, wildfires occur periodically, and firefighting can be very difficult because of difficult-to-access terrain.

Fig. 4. Mixed three-dominant forests of beech, spruce, and fir cover 85% of the forest area on Tara Mt. © J. Janković.

Fig. 5. A sign prohibiting the use of fire. © Z. Popović.