



### **EstBatLIFE project**

**„Improving the Pond Bat (*Myotis dasycneme*) habitats in Estonia“**

### **Project Action D1**

**„Monitoring of the effects of project actions on target species and visitation flows“**

### **Milestone:**

**„Terms of reference for the monitoring are established“**

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## **Monitoring the effects of project actions on target species and visitation flows**

### **Terms of reference for 2020-2021**

#### ***Bat counts***

Bat counts will be carried out in all caves, bunkers and underground tunnels in all project sites in the second half of February or in the beginning of March. All dead bats and bat remains will be collected. Possible human visits will also be traced and recorded. Counts will be carried out using the mapping method (with the exception of Humala big bunker which has not been mapped). Laser rangefinder will be used in Humala and Vääna-Posti to record exact locations.

Hibernating bats will be counted by means of visual detection, using torches. Binoculars or monoculars will be used if necessary. In each hibernation site, all accessible crevices, holes and niches in the walls and ceilings will be checked. A small portable ladder will be used if necessary. The aim is to find as many bats as possible, and to identify the species of the found specimens, if possible, without touching the animals. The specimens that are awake are not counted whereas those that are in the middle of awakening and have not moved away from their hibernating position, are counted. The specimens that are located on the ground between stones are not counted if the stones need to be moved to see the bats.

#### ***Monitoring temperature conditions***

At Humala site, caves no 1 and 3, air temperatures in underground tunnels will be recorded if the winter is cold enough. The data logger is used to collect temperature data.



### ***Monitoring human visitation***

Unauthorized visits are monitored mainly with surveillance cameras at all cave entrances. Additionally, at least four visitor counters are used inside the caves, minimum one counter in each project site. Numbers of the visitors entering caves and the duration of time spent in caves will be recorded. All tampering and vandalism acts will be recorded (crossing the fences, damaging the fences or surveillance devices etc) even where the persons involved do not enter the caves.

### ***Monitoring the culvert***

The amount of falling material (sand, clay etc) around the culvert and the protecting construction itself is monitored in Piusa cave no 1 to ensure the quality and stability of the construction.