Human-animal conflicts and social dimension

Towards understanding and resolving conflicts of bat presence and maintenance of buildings of cultural heritage in Slovenia

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Castles, churches and other buildings of cultural heritage (BCH) play an essential role for a number of bat species across Europe. Maintaining bat roosts in such manmade structures is a very specific conservation problem, as owners or managers of BCH need to be persuaded to accept bats in their buildings, mostly in connection with the additional workload caused by cleaning bat guano. Addressing this problem is one of the focuses of the *LIFE integrated project for enhanced management of Natura 2000 in Slovenia* (LIFE-IP NATURA.SI). As a strong scientific basis is an integral part of nature conservation communication, we have analysed data on the presence of bats in BCH in Slovenia (an area of 20,271 km^2 or about 250×150 km).

Over the last two decades, more than 1,700 BCHs were surveyed. Bats or evidence of their presence were found in 80% of them, i.e. in 1,350 churches and 44 castles. Of the 32 bats species present in Slovenia, 23 were recorded and, to our knowledge, BCH are crucial roosts for 10 bat species (*Rhinolophus hipposideros*, *R. ferrumequinum*, *R. euryale*, *Myotis myotis*, *M. blythii*, *M. emarginatus*, *Plecotus macrobullaris*, *P. austriacus*, *Miniopterus schreibersii*). All these bat species and their habitats are protected and classified as endangered or vulnerable in the Slovenian Red List. Maternity roosts were confirmed in 631 BCH (37%), and as more than one bat species may use the same building, 780 nursery groups were recorded. Groups of bats usually consisted of less than 100 adults; however, exceptionally (in 14 buildings) there were more than 500 or even more than 2,000 adults present. The second part of the project was a survey of over 400 bat roosts in the BCH, where we recorded details of the microlocation and amount of bat guano in the BCH and interviewed their managers on the subject. The third part of the project involved small-scale improvements to selected bat roosts to test the effectiveness of some technical measures regarding limiting bat guano loads. Finally, we will discuss long-term options to help BCH managers maintain peaceful coexistence with bats.