# Usability of drone for brown bear (*Ursus arctos*) inventory in Artvin Forest, Turkey

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**Abstract:** Population and habitat inventory are very important for wildlife management. However, there are some difficulties in successfully achieving these inventories with classical methods in especially forest areas. The inventory of large mammal species, especially those with forest habitats, is more complex than species found in open areas. The availability of drones in wildlife inventory has been recently discussed. In this study, the usability of drones in the Brown bear (*Ursus arctos*) inventory has been examined in Artvin forest. The first results of trial flights was showed that detailed and clear images can be taken until approximately 200 meters in distance, because Brown bear were not escape from the drones in this distance. Trial flights have also shown that individuals who are stationary with the drones and difficult to recognize can be seen more easily as they move with drone sounds. Drones can be used with large mammal species such as bear especially when the inventory to be made for the bears is better in the forested areas, especially before the vegetation period starts. However, if the drones are brought closer to the individual for detailed observations, it is also determined that the individual has escaped. Drones are also helping to identify habitats and stands that the target species has used. As a result, this study shows that drones can be used for population and habitat inventory of Brown bear in forested areas. In addition, it is estimated that the use of thermal cameras with drones can provide more healthy results, especially in large predatory species that are active at night. Although the labor cost of inventory with drones is very low, short-term observations are disadvantageous because of the battery problem. In addition, some studies have shown that the drones cause the stress in the bears.

**Keywords:** Drone, Wildlife management, Habitat inventory, Population inventory