
GRIZZLY BEAR AND BLACK BEAR MARKING BEHAVIOR

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Marking activity is common among ursids but little information has been quantified about this behavior. We describe marking behavior of sympatric grizzly bear (*Ursus arctos*) and black bear (*U. americanus*) populations in a 31,400-km² area in northwestern Montana. We found marking activity in all areas occupied by bears regardless of bear density and land use. Based on examination of > 5000 bear marking sites, rubbing was the most common behavior at these sites. We used genetic analysis of hair collected at rubs to identify species, sex, and individual identity of bears using them and remotely-triggered cameras to observe bear behavior. Both grizzly bears and black bears rubbed; 58 percent of rubs had black bear hair, 25 percent grizzly hair, and 11 percent hair from both species. Bears typically marked standing trees (86%) but sign posts on hiking trails and forest roads, and power poles were also used. Only males rubbed May-June but female use increased substantially by late summer. Although cubs were detected at lower rates than older bears, all grizzly bear sex and age classes participated in rubbing. Many sites were rubbed repeatedly within and between years but there was also continual turnover. One function of rubbing appears to be chemical communication among bears, although this behavior is different from marking behavior observed in territorial species such as canids. With the high frequency of rubbing activity in these sympatric bear populations, hair from bear rubs provides a reliable and efficient way to concurrently sample both species to monitor population trends.