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# IBA MEXICO 2007

18<sup>th</sup> International Conference on Bear Research & Management

18<sup>ava</sup> Conferencia Mundial Sobre la Investigación y Manejo de Osos

November 4-11, 2007

Monterrey, Nuevo León, México



**ADVERTISING DOMINANCE OR SEXUAL AVAILABILITY: THE USE OF RUB TREES BY BROWN BEARS**

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Currently we lack an understanding of olfactory communication in bears. This applies to both opportunistic marking during social interaction and the use of rub trees (trees that are bitten and rubbed by many bears each year) to transfer social information. Both of these forms of communication should be the focus of field and captive studies. I conducted a base line ethological study of olfactory communication in brown bears (*Ursus arctos*). While bears are often considered solitary, aggregations favouring social learning and complex social interaction are much in evidence. High density populations associated with coastal salmon runs provide an opportunity to study their behavioural response in close proximity to other adult bears, which would be difficult, if not impossible, in low density mountain populations. I will present data on the relationships between use of rub trees and sex/dominance/reproductive availability. Data was recorded over 167 camera-trap-nights in the Glendale valley, British Columbia in May and June 2005 and 2006. To reliably document social interactions and communication in free living wildlife it is essential that individuals can be identified. Photo-identification techniques allow individual bears to be distinguished. Coat coloration and scar patterns were recorded with sketches and descriptions on data sheets, supplemented by a catalogue of reference photographs. Each bear was given a unique numeric code. Sex is determined by urination pattern, direct observation of genitals or the presence of cubs. Since research began at the Glendale field site in 1999 an ongoing record of photo identified bears has been maintained and updated annually and now contains of more than 30 recognisable adult brown bears. I will highlight the potential impact of ecotourism/bear viewing activities on marking, courtship and breeding behaviour: During its initial growth the bear viewing/ecotourism industry in Alaska and British Columbia has focused the majority of activity on autumn salmon feeding aggregations introducing high levels of human activity to some of these sites. With increased demand and repeat visitation bear viewing activities during the spring breeding season are increasing. With studies reporting that large male bears avoid people both temporally and spatially it is critical that we broaden our understanding of olfactory communication, its role in courtship and breeding, and the potential impacts of the rapidly expanding ecotourism industry on normal breeding behaviour. Are large adult males being displaced by spring viewing? Does this reduce their marking or otherwise impact their breeding opportunities? How does this impact the management of bear populations, especially in light of the sexually-selected infanticide? I will draw on data from ongoing telemetry studies in the region to inform this debate.