Exploration to the Cofán Territories: the use of game trails, non-invasive genetic sampling, and camera traps as tools for Andean bear surveys

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Abstract

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The knowledge about the distribution, presence/absence, abundance, habitat use and food habits of a species is fundamental to the development of management and conservation plans. That knowledge has been particularly hard to get with species showing low densities and species hard to see and trap such as the Andean bear. There is a strong need for benchmark data and surveys techniques throughout the Andean bear distribution to field those information gaps.

During the last 5 years, WCS Northern Andes Andean Bear Program have tried several non-invasive techniques in order to gather information about wild Andean bear populations. Surveys along game-trails, collection of hair samples on mark-remark sites for genetic sampling and the use of camera traps were the most successful techniques used to gather information about presence/absence, activity, seasonality, food habits, resource availability, and population genetics. At the Cofán exploration the 3 techniques were used in order to test their effectiveness as survey techniques to gather benchmark information and also as techniques for Andean bear population monitoring.

Between the 10 and the 26 of February 2005, we surveyed 9 areas around the Sur Pax mountain in Ecuador, between 1200 and 2340 m.a.s.l. 7 transects were done along ridgeline areas and 2 transects along valleys. We found game trails with bear activity signs along all the transects surveyed along ridgelines. The type and number of signals varied among trails. 150 feeding and scat signs were found, identifying 11 different food items. We were able to collect 70 hair samples searching on 144 mark trees along 6 game trails. 2 bear pictures were taken using 8 camera traps, placed along 2 game-trails for only 2.5 and 4.5 days. No bear trails or bear activity signs were found on the valley transects.

The above results show the efficacy of surveying game trails to explore new areas in order to gather information on presence/absence, habitat use and food habits. Mark trees along the bear trails are an excellent source of hair samples for genetic studies, and camera traps can be placed along trails to gather information about the pattern of activity, frequency of use of such transects and the amount of bear sign related to that use. We strongly recommend the use of the above techniques for surveying new areas, or monitoring populations of high interest.