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ABSTRACTS

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status and can contribute greatly to long-term monitoring programs. Fecal samples can be readily collected in a non-invasive manner (Wasser et al 2004) and provide a variety of stress, reproductive, and metabolic status measures that can be correlated with environmental pressures over time (Wasser 1996; Wasser et al 1997; 2004; Foley et al 2000; Millspaugh et al 2001; Creel et al 2004). However, non-invasive sample collection often includes samples that have been exposed to their natural environment for varying and usually unknown time periods. Since the amount of time between defecation and collection of the sample could affect the final measurable hormone concentration, we examined the temporal impact of exposure to natural environmental conditions (e.g., sun, rain, and microbes) on variation in grizzly bear fecal hormone concentrations in Glacier National Park, MT. This study provides the first comprehensive study of environmental impacts on fecal steroid metabolism conducted under field conditions. The study focuses on the measure of glucocorticoids in grizzly bear feces because of the importance of glucocorticoids as a biological indicator of environmental stress and the ease with which this hormone can be metabolized *in vivo*. Preservation method was also examined because this too can influence measurable hormone concentrations through metabolic changes and associated changes in metabolite affinities to the antibody used for their measurement.

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ECONOMICS OF GRIZZLY BEAR VIEWING: A TOOL FOR PRESERVATION OF HIGH DIVERSITY LANDSCAPE IN BRITISH COLUMBIA?

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Recent legislative and policy changes to forestry and land-use decisions in British Columbia have resulted in considerable emphasis on economic values in decision making. Commercial grizzly bear viewing was examined to determine the potential for preserving high diversity old growth forest through the land-use planning process and to identify barriers to the success of these operations.

A baseline economic survey of grizzly bear viewing operators was undertaken to assess the present impact using an input/output model (or National Accounting Standards). The design allowed for cross-sectoral comparison and was compatible with land-use planning guidelines. A separate survey of participants was used to determine the importance of bear viewing to destination choice in order to apportion total vacation costs appropriately. Operators and industry experts were polled for factors affecting the success of bear viewing, and a follow-up survey ranked the compiled factors. Geographical attributes of existing bear viewing sites and the surrounding areas were compiled and compared with the BC government's GIS database to produce a map of potential viewing sites.

Results provided information on a wide scope of viewing conditions and allowed for benchmarking best and worst-case economic scenarios. The economic impacts of the present industry were found to be relatively small, but can add significant value to low-elevation old-growth forest in regional planning. Commercial potential was found to be significantly underestimated in current tourism opportunities studies. A discussion of the barriers to success and concessions in a multi-stakeholder scenario is included.