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Measuring environmental integrity is a necessary challenge in restoring habitats to original levels of integrity, and to provide guidelines for policies for environmental certification. Also, predict and alert approaching species' extinction may provoke actions to mitigate nocive effects. Evidence has been obtained on the differential vulnerability of large neotropical mammas to extinction based on presence-absence surveys for 6 species in 14 localities of southern Brazil. With the exception of one, most populated area, the other were selected for harboring at least one species of interest. Only those species with historical distribution for all areas were selected. Most of the information on presence-absence was collected directly by the author, and the remaining data was based on information of local wildlife and environmental managers. The distribution of the species were plotted in a vegetation map of the Atlantic Forest. The gray brocket deer *Mazama gouazoubira* and the puma *Puma concolor* were recorded in 13 areas, the collared-pecary *Pecari tajacu* in 11, the white-lipped pecary *Tayassu pecari* in 8, the tapir *Tapirus terrestris* in 6, and the jaguar *Panthera onca* in 3 areas. Areas with larger extent of forest were those with greater richness of selected species, the Iguaçu National Park and two areas in 'Serra do Mar'. Results suggest that the occurrence of differential extinction proneness of selected species is related with with the number of presences found in the study, that is, species occurring at smaller number of places disappear first, and the combination of species present-absent indicate the level of habitat integrity. Furthermore, there is a relationship between the number of places the species is absent and degree of local threat, but not necessarily with global level of threat or resource demand (food, territory). It is possible to argue, for exemple, that the puma, albeit occurring at more places, is more vulnerable and has a larger resource demand than the collared pecary. This open possibility to chances in the order of species proneness to extinction if local management is modified (eg. supression of hunt). The red-brocket *Mazama americana* and dwarf deer *Mazama nana* were not included due to the difficulty of obtaining reliable records, although they are also potential indicator species.