

## **DATABASE IN THE MODELLING OF BIG MAMMALS: SUBSIDIES FOR SPATIAL PLANNING (LAND USE) OF SÃO PAULO STATE-BRAZIL**

**Theme:** Modeling tools & biodiversity conservation

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Big mammals are key-species for conservation of the biodiversity, because the long reach of their trophic interactions, the high patterns of their distribution and migration capacity. These species could reflect effects of the alterations in the regional landscape. However, subjects related to the conservation of those animals still have not been approached in the space planning. To solve that, at first we objective to verify if the registrations of big mammals available in SINBIOTA database of the Virtual Institute of Biodiversity (BIOTA-FAPESP) are enough for studies of species distribution modeling; and at second we objective to evaluate if that technique is adapted to indicate priority areas for conservation in the central area of the State of São Paulo, Brazil. We applied the software MAXENT version 3.3.2 to 18 points of the maned-wolf (*Chrysocyon brachyurus*), 16 points of the ocelot (*Leopardus pardalis*) and 22 points of the mountain-lion (*Puma concolor*) registered at database from 2000 to 2003. For the environmental layers, we considered climatic data of the Worldclim version 1.1 Global Climate Surface; Enhanced Vegetation Index (EVI), Normalized Difference Vegetation Index (NDVI), Shuttle Radar Topography Mission (SRTM) and the distance of the areas already protected and indicated by the program Biota-FAPESP to protection in the State of São Paulo generated in the program IDRISI 15 Andes Edition, at 0,083 km resolution and Datum WGS-84. To the modeling process, we made random partitions with replacement of the data (bootstrap), 75% for effective generation of the models and 25% for validation, using an absolute omission threshold of 10%. The constructed models were statistically valid, with values below 1% in the binomial test (0,089 for *Chrysocyon brachyurus*; 0,0624 for *Leopardus pardalis*; and 0,0473 for *Puma concolor*), and their performance were excellent, with values of the Area Under the Curves (AUC) from 0,9 to 1,0 (0.959 for *Chrysocyon brachyurus*; 0.983 for *Leopardus pardalis* and 0.959 for *Puma concolor*). The applied technique is promising for biodiversity studies in the State of São Paulo, and the database is already enough for modeling. However, the available data are concentrated in the study area and at study period, and they actually can not be applied in other areas and periods. The areas considered appropriate for conserve big mammals in this study can be included in spatial planning (land use), offering support to public politics of management and conservation. Key words: database, modeling of big mammals, spatial planning. Financing: FAPESP.