Abstract

This study is part of the Floristic and Forest inventory of Santa Catarina, conceived to evaluate forest resources, species composition and structure of forest remnants, providing information to update forest conservation and land use policy in Southern Brazilian State of Santa Catarina (95,000 km²). In accordance to the Brazilian National Forest inventory (iFN-BR), the inventory applies systematic sampling, with 440 clusters containing four crosswise 1,000 m² plots (20x50 m) each, located on a 10x10 km grid overlaid to land use map based on classification of SPOT-4 images from 2005. Within the sample units, all woody individuals of the main stratum (DBH ≥ 10 cm) are measured and collected (fertile and sterile), if not undoubtedly identified in field. Regeneration stratum (height>1.50 m; DBH<10 cm) is registered in 100 m² in each sample unit. Floristic sampling includes collection of all fertile trees, shrubs and herbs within the sample unit and in its surroundings. This study performs analysis based on 92 clusters measured in 2008 within an area of 32,320 km² of mixed ombrophyllous forests with Araucaria angustifolia located at the state’s high plateau (500 m to 1,560 m above sea level at 26°00‘-28°30‘ S and 49°13‘-51°23‘ W). Mean density (DBH≥10 cm) is 578 individuals/ha (ranging from 85/ha to 1,310/ha), mean species richness in measured remnants is 35 (8 to 62), Shannon and Wiener diversity index (H’) varies between 1.05 and 3.48. Despite high total species diversity (364 Magnoliophyta, five Coniferophyta and one tree fern) and relatively high mean basal area (25.75 m²/ha, varying from 3.87 to 68.85 m²/ha), the overwhelming majority of forest fragments are considered highly impacted and impoverished, mostly by logging, burning and extensive cattle farming, turning necessary more efficient protection measures. Basal area was considered an appropriate indicator for stand quality and conservation status.

Keywords
Regional forest inventory, Araucaria angustifolia, forest structure, human impacts on forests.