Title: THE FLORISTIC AND FOREST INVENTORY OF SANTA CATARINA STATE IN SOUTHERN BRAZIL (IFFSC)

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Abstract of the paper: The Floristic and Forest Inventory of Santa Catarina is conceived to evaluate forest resources, species composition, structure of forest remnants, providing information to update forest conservation and land use policy in southern brazilian state of Santa Catarina (95,000km²). Focused on endangered tree species in a highly fragmented forest cover under permanent pressure by agriculture and forest plantations, the inventory is composed by (1) integrating and digitalizing the state's four existing herbaria, (2) field inventory strictu senso, (3) assessment of genetic structure of endangered tree populations, (4) analysis of socio-economic importance of forest resources and (5) on-line geo-referenced database to be accessed by decisionmakers and the public. In accordance to Brazilian National Forest Inventory (IFN-BR), the inventory applies systematic sampling, with 440 clusters containing four crosswise 1,000m² plots (20 x 50m) each, located on a 10x10km grid overlayed to land use map based on visual interpretation of SPOT-4 (private land, 90% of territory) and SPOT-5 (public areas, 10% of territory) images from 2006. Within the sample units all woody individuals of main stratum (DBH =10cm) are measured and collected (fertile and sterile), if not undoubtedly identified in field. Regeneration stratum (height 1.50m; DBH 10cm) is registered in 100m² in each sample unit. Floristic sampling includes collection of all fertile trees, shrubs and herbs within the sample unit and in its surroundings. The inventory started in November 2007 and is to be finished at end of 2009, covering the three main phytogeographic regions (dense atlantic rain forests in coastal zone; mixed ombrophylous forests with Araucaria angustifolia (Bertol.) Kuntze in the highlands, including remnants under savanna domain; decidual seasonal forests in southwestern region). This study performs analysis based on 96 clusters measured in 2008 within an area of 44,362 km² of mixed ombrophylous forests with Araucaria angustifolia located at the state's high plateau (500m to 1560m above sea level at 26º00'-28º30'S; 49º13'-51º23'W). Mean density (DBH =10cm) is 576 individuals ha-1 (ranging from 108 ha-1 to 1310 ha-1), mean species richness in measured remnants is 36 (8 to 67), Shannon and Weaver diversity index (H´nat.) varies between 1.5 and 3.49. Despite high total species diversity (658 angiosperms, 3 coniferophytes, 104 pteridophytes) and relatively high mean basal area (25.75m² ha-1, varying from 7.16 to 68.85 m² ha-1), the overwhelming majority of forest fragments are considered highly impacted and impoverished, mostly by logging, burning, extensive cattle farming, turning necessary more efficient protection measures.

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