



**ASSESSMENT OF PLANTED FOREST MANAGEMENT AND STUMP-TO-FOREST GATE
CHAIN-OF-CUSTODY DEVELOPED BY FLORESTAL GATEADOS LTDA. IN THE LAGES
REGION – STATE OF SANTA CATARINA - BRAZIL**

**CONDUCTED ACCORDING TO THE PRECEPTS OF FSC AND THE SCS FOREST
CONSERVATION PROGRAM**

Certification Program Accredited by FSC

Certificate registered under number

SCS-FM/COC-00126P

Submitted to:

FLORESTAL GATEADOS LTDA

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CEP: 88580-000 – Campo Belo do Sul – Santa Catarina - Brasil

Coordinated by Vanilda Rosângela de Souza

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By:

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Organization of the Report

This report corresponds to the results of the assessment by the audit team and is divided in two sections. Section A includes the Public Summary and the basic information required by FSC (Forest Stewardship Council). This section will be open to the public in general and is meant to provide a general view of the assessment process, the administrative and management programs, and the plan of action regarding the forests, and the final result of the assessment. Section A will be posted on the SCS webpage (www.scs-certified.com) within 30 days after certification is awarded. Section B contains more detailed information for the company's use.

Certification Process

Certification process of the forest management carried out by **Florestal Gateados Ltda** in Campo Belo and Capão Alto (Santa Catarina State) municipalities, which encompass 16,390.5 ha. This includes 7,326.1 ha with forest tree plantations of which 6,311.25 ha are planted to pines, 438.26 ha to *Eucalyptus*, and 576.57 ha to several species such as *Araucaria angustifolia*, *Cryptomeria japonica*, *Cunninghamia lanceolata*, *Cupressus lusitanica*, and *Ilex paraguariensis*. The native forests cover 7,031.4 ha of which 6,328.6 ha are set aside for the Private Reserve of the Natural Heritage (RPPN), which includes the company's Legal Reserves.

FOREWORD

According to the FSC (Forest Stewardship Council) system, forest operations in compliance with international forest management standards can be certified as “well-managed”, and become eligible to use the FSC logo for market purposes. This certification is valid for a five-year period, after which a new evaluation must be carried out for recertification. This process is to be repeated every five years.

SCS (Scientific Certification Systems), a certification body accredited by FSC, was commissioned by **Florestal Gateados Ltda.** to conduct a certification evaluation of its forests located in Campo Belo do Sul and Capão Alto (Santa Catarina, Brazil) municipalities. This management unit covers **16,390.5** ha of which 7,326.1 ha are planted to forest tree species. Pine plantations cover 6,311.25 ha, while 438.26 ha are planted to *Eucalyptus*, 428.44 ha to *Araucaria*, and 148.13 ha to species such as *Cryptomeria japonica*, *Cunninghamia lanceolata*, *Cupressus lusitanica*, and *Ilex paraguariensis*. The native forests cover 7,031.4 ha of which 6,328.6 ha are set aside for the Private Reserve of the Natural Heritage (RPPN), which includes the company’s Legal Reserves.

The interdisciplinary team of auditors and specialists in natural resources collected and analyzed written material, conducted public consultations through public meetings and interviews, and performed field and office audits during four days at the properties for which certification assessment was requested. Upon completion of the fact-finding phase of the evaluation, the team concluded that the company is in conformance with FSC Principles and Criteria and recommends that recertification be awarded.

This report is in support to the recommendation of a five-year FSC Certification of **Florestal Gateados Ltda.** forest plantation management, which is located in the State of Santa Catarina. After a thorough assessment of the management practiced by the company, the assessment team raised some pre-conditions (conditions that must be resolved prior to the finalization of the audit report). These were handed to the company representative and were complied with, as verified by SCS. If certification is awarded, the certification body will post this public summary on its web site (www.scscertified.com).

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SECTION A- PUBLIC SUMMARY AND BACKGROUND INFORMATION

1 GENERAL INFORMATION

1.1 FSC Data Request

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Website	www.gateados.com.br
Certificate type	A single management plan (FMU).
Number of FMU	1
Number of assessed farms in the FMU that are smaller than 100 ha	0
From 100 to 1,000 ha	0
From 1,000 to 10,000 ha	0
Larger than 10,000 ha	1
Location of certified forest areas:	
Latitude	27°35' to 28°05' S
Longitude	50°45' to 51°05' W
Forest region	Santa Catarina Highlands
Total forest area of farms included in the scope of certification that are:	16,390.5 ha
Smaller than 100 ha	0
From 100 to 1,000 ha	0
From 1,000 to 10,000 ha	0
Larger than 10,000 ha	16,390.5 ha
Land tenure	Private (100 %)
Number of forest workers (including contractors) working in the forests within the scope of certification	149 direct and 83 contractor's
Chemical pesticides used in the FMU	Scout (Glyphosate); Fordor (Isoxaflutol); Round-up (Glyphosate)
Forest protection areas that are protected from harvesting activities and managed primarily for conservation.	7,031.4 ha
List of high conservation values present	Occurrence of <i>Dyckia distachya</i> , an endemic bromeliad that is threatened to extinction due to the impoundment of Uruguay River.
Productive forest area	7,326.1 ha
Productive forest area classified as	7,326.1 ha

“plantation” for the calculation of AAF (Annual Accreditation Fee)	
List of commercial timber species included in the assessment (botanical name and common name)	Pine (<i>Pinus taeda</i> ; <i>P. elliottii</i>), eucalyptus (<i>Eucalyptus</i> spp.), and Brazilian-pine (<i>Araucaria angustifolia</i>)
Approximate annual volume authorized for harvesting	250,000 m ³
List of product categories included in the scope of joint FM/COC certificates and, therefore, liable to be sold as FSC certified products	Pine, <i>Eucalyptus</i> , and <i>Araucaria</i> logs

1.2. Forest Management

Fazenda dos Gateados, as the farm used to be known, originated from the acquisition of several neighboring properties. The resources used for these acquisitions were amassed from cattle, mule and horse driving from Rio Grande do Sul to the State of São Paulo. These troop drivings were organized by Mr. Firmino da Silva Rosa, who owned a burnt-yellow colored horse troop which, in the regional language, was known as *Gateado* fur. In time, the farm became known as “*Tropilha dos Gateados*” and, later, as Fazenda dos Gateados property.

With the expansion of the farm area by adding adjacent lands, the main activities at Fazenda Gateados were cattle raising on the rangeland until 1980, Brazilian-pine timber exploitation until June, 1989, and dairy cattle raising until 1993. Tree plantings started in 1978 with Brazilian-pine (*Araucaria angustifolia*) and in 1981 with *Pinus*.

“Fazenda dos Gateados” was the name of all land properties of Einsfeld Condominium, owned by Emilio, Ervino, and Magdalena brothers and sister until 1982. After termination of this condominium, the property was divided into three farms: Fazenda Paequerê (Magdalena Presser Einsfeld), Fazenda Guamirim (Emílio Einsfeld Filho), and Fazenda Gateados (Ervino Presser Einsfeld). Emílio and Ervino decided to manage their lands in partnership and the farm names were unified into Fazenda Guamirim-Gateados. On September, 2001, it was turned into a real estate named Florestal Gateados Ltda.

Currently, the company centralizes its activities in production and trading of pine logs from stands planted with the company’s own resources. Florestal Gateados has always sought to develop its activities in conformance with the legal precepts with entrepreneurial efficiency by respecting, also, the social and environmental precepts. The company has always stood out for carrying out its forest management according to the best quality techniques. It pioneered pine stand management for multiple use in Brazil, with priority in high quality log production.

1.2.1. Social and Environmental Context

Florestal Gateados activities are centered, mostly, in Campo Belo do Sul and Capão Alto municipalities, State of Santa Catarina, in the Brazilian southern region. Campo Belo do Sul is located at latitude 27°53'57” S, longitude 50°45'39” W, and 1,017 m elevation. It is part of the Campos de Lages Micro-region, which is one of the coolest regions in Brazil. Severe frosts and snowfalls are common. Summer temperatures can reach over 30° C. In general, the climate is characterized as humid mesothermic with mild summers in the western section and hot summers in other areas; the mean annual temperature is between 12° C and 16°C.

Initially, the place was known as Freguesia Nossa Senhora do Patrocínio dos Baguais, in the Province of Santa Catarina, due to presence of semi-wild horses (baguás) in the region. Later on, it became known as Campo Belo, then, Antônio Inácio, and, finally, Campo Belo do Sul. It was emancipated from Lages and became a municipality in 1961. The region was inhabited by Guarani, Xokleng, and Kaingang indians and bugres (Indian mixed breed). It was colonized by settlers from Sao Paulo and those brought in by the Jesuits to engage in cattle raising. Troops carrying jerk (strips of dried meat) to coffee producers in São Paulo used to pass through the region.

Campo Belo do Sul population is estimated to 8,211 inhabitants (2009), with a population density of 7.9 inhabitants/km². There is a balanced distribution between the male and female populations (Table 1), although a slight excess of male elements seems possible. Most part of the population fits into the 20- to 59-year age group, which constitutes the current work force in the community. However, the population distribution by age groups indicates that the municipality will face a shortage of work-force in coming decades because of the reduced juvenile population, unless there is a migratory inflow.

Table 1: Distribution of Campo Belo do Sul population by age group and gender.

Age Group (years)	Population		
	Male	Female	Total
< 1	55	52	107
1 to 4	248	224	472
5 to 9	370	328	698
10 to 14	361	319	680
15 to 19	365	294	659
20 to 29	761	606	1,367
30 to 39	590	506	1,096
40 to 49	570	566	1,136
50 to 59	477	450	927
60 to 69	301	259	560
70 to 79	175	196	371
80 ⁺	76	62	138
Total	4,349	3,862	8,211

Source: IBGE, Census and Estimate

The main socio-economic activities in Campo Belo do Sul take place in the rural areas. Rural properties are mostly comprised by natural pasture, agriculture (corn, soybean, wheat and apple) and planted forests. Livestock is mostly cattle (28,318 heads). However, pig, sheep, horse, and goat herds are also important. Milk, meat, wool, honey and eggs are the most important animal products.

The main industrial facilities are those of wooden furniture, sawmills, metalworks, saddlery, and slaughter houses. The main wholesale tradings are in the leather krafts and beverages. The retail market includes a whole range of goods and most establishments are in the grocery and clothing businesses. Job openings in the municipality occur mainly in agriculture and livestock raising (37.8 %), industry (23.7 %), trade (20.4 %), and services (18.2 %).

Timber industry and reforestation sectors are relevant for the generation jobs (33 % in silviculture and timber harvesting, and 36 % in services (contractors), mainly in pine log harvesting and transportation. In this context, Florestal Gateados Ltda. effectively contributes to the socio-economic development of the municipality.

In the realm of education, there are seven schools that offer high school level courses. Because there is no college level school, the students travel to other cities for opportunities in education and professional trainings. This explains, in part, why the population of juvenile age is so scarce.

The general development level of the municipality is comparatively low (HDI = 0.694) in relation to the average of Campos de Lages Micro-region, which has an HDI of 0.789. Therefore, economic activities that involve intense local workforce, such as wood production and timber industry are essential elements for the regional development.

Capão Alto region used to be part of Campos de Lages in early XVIII century. The region was inhabited mainly by bugres. The local development was prompted by the need of commercial routes linking the Rio Grande do Sul rangelands with the rest of the country, mainly São Paulo and Minas Gerais. The region was settled by “bandeirantes” (pioneers) from São Paulo, Rio Grande do Sul, and Laguna. Capão Alto District was established in 1899, when the first Italian immigrants coming from Rio Grande do Sul arrived in the region. Capão Alto was emancipated from Lages and became a municipality in 1994.

Capão Alto municipality has a population of 3.210 inhabitants (2007), with a demographic density of 2.4 inhabitants/km², 80 % of which live in rural areas. The main socio-economic activity is also rural. Most of the properties are natural rangelands, agriculture (apple, corn, potato, beans, soybeans, and vegetables) and planted forests (pine). Livestock is mainly cattle with 36,522 heads; there are also pig, sheep, fowl, fish-farming, and bee-keeping. The planted forest area is extensive and generates raw-material for wood and paper industries in the region. The watershed in the municipality favors game fishing and water sports. The Human Development Index in this municipality is lower (HDI = 0.638) than in Campo Belo do Sul, due to lack of other significant economic activities such as industries and commerce. Job generation in Capão Alto takes place mainly in agricultural and livestock sectors (38.7 %), while the industry generates 23.7 %, the commerce 20.4 %, and the services 18.2 % of jobs.

1.2.1.1. Soil and Relief

The region involving Campo Belo do Sul and Capão Alto municipalities is located on the Highland of Araucarias, where the soil is characterized as a high natural fertility Hapludox. The relief varies from rolling to broken terrain. However, there are extensive areas where mechanized operations are possible.

1.2.1.2. Hydrography

Campo Belo do Sul and Capão Aldo are located between Caveiras River to the North and Pelotas River to the south. Caveiras River flows into Pelotas River, which marks the border between the States of Santa Catarina and Rio Grande do Sul and this, in turn, flows into Uruguay River.

1.2.2. Forest Management Context

The species used by the company are those which have demonstrated adaptation to the bioclimatic conditions in the region. *Pinus taeda* and *P. elliottii* var. *elliottii* make up the majority of commercial plantations. These are species that, for several decades, have constituted the basis of the conifer wood industry in Southern Brazil, replacing the Brazilian-pine wood that used to be exploited from natural forests.

Within the genus *Eucalyptus*, *E. dunnii* is the main specie planted commercially for the production of timber and energy. Brazilian-pine is planted in a smaller scale to produce high quality wood for mechanical processing. Other species are planted in experimental scale, such as *Cryptomeria japonica*, *Cunninghamia lanceolata*, *Cupressus lusitanica*, *Grevillea robusta*, *Ilex paraguariensis*, and *Sequoiadendrum giganteum*.

The management system adopted by Florestal Gateados has the objective of meeting the demand for wood and is operated as follows:

- Pine: Planting at 2.5 m x 2.0 m spacing for a 25-year cycle with five prunings and five thinnings. The first pruning is normally done in the third year and, from then on, annually, depending on the growth rate. The first thinning is done between the seventh and the eighth years after planting; the second thinning is performed between the tenth and the eleventh years; the third, between the thirteenth and the fourteenth years; the fourth, between the seventeenth and the eighteenth years, and the fifth, between the twenty-first and the twenty-second years.
- *Eucalyptus*: Planting at 2.5 m x 2.0 m spacing for a 20-year cycle, with three to four prunings and five thinnings. The first pruning is carried out in the first year; the second, by the second year; the third, during the second year, and the fourth, between the third and the fourth years. The first thinning is carried out between the third and the fourth years; the

second, between the fifth and the sixth years; the third, between the seventh and the eighth year; and the fourth, between the ninth and the tenth years after planting.

Upon completion of each cycle, the areas are reformed with the establishment of new plantations between the lines of the previous stands. A detailed harvesting plan is drawn, annually, in order to ensure supply of raw-material in a sustainable regime and to meet the annual sales plan. The seedlings used in commercial plantations are acquired from commercial nurseries, accredited by the Ministry of Agriculture.

1.2.2.1. Long-Term Planning

The long-term planning is carried out according to the basic guidelines set by the company board of directors. It is meant to redirect the ideas and actions in order to prevent waste, reinforce the favorable conditions and minimize the unfavorable ones. The current and future demand of wood, the current availability of lands and forests, the productivity level, the technological gain, costs, income and management option are taken into account in the long-term planning.

1.2.2.2. Forest Stand Regulation

A 20-year horizon was defined for the company's plan to regulate the *Eucalyptus* stands and 25 years to regulate pine stands. Thus, an area planted with *Eucalyptus* will be harvested in 20 years, while pines will be harvested in 25 years.

Eucalyptus plantations are to be established on areas under reform after harvesting pine stands until 2014 and 735 hectares (approximately 10% of the area available for forest plantation) are completed. Thereafter, *Eucalyptus* will be planted on areas reformed after harvesting *Eucalyptus* at a rate of 35 hectares a year.

Pine plantations will be established on areas reformed after harvesting pines. These areas will be gradually reduced until it reaches 5,952.5 hectares (difference in areas between the sum of *Eucalyptus* and other species areas and the total area available for tree species).

The objective of the company is to alternate species planted along the rotations. This is because pines do not reach the optimum age for clear-cutting on a short-term basis, although they are planted on areas with high potential for *Eucalyptus*. Moreover, it is considered that each species present distinct patterns of nutrient assimilation and it can contribute positively to soil sustainability.

1.2.2.3. Possibility of Logging and Production

The fact that no pine plantation had been established in previous years could become a complicating factor for the long-term forest management, depending on the age structure of other projects in the forest. The situation of the company forests is favorable for planning because most of the plantations is distributed among higher age groups. This allows the administration of a large volume stock throughout the years so that, on a long-term basis, the annual harvesting can become uniform. This regulation can only be attained by "harvesting sacrifice" (anticipation or delaying of thinnings and clear-cuttings in given projects).

Presently, most of the stands and existing volumes are distributed between the ages of 26 and 27 years (2009). In quantitative terms, there are nearly 2,576 ha included in this age group. This corresponds to approximately 41% of the total area (6,304 ha). At these ages, approximately 1,446,746 m³ are accumulated. It is equivalent to 45% of the stock estimated in approximately 3,206,106 m³ (estimate for 2009). By considering that pine stands can reach 5,953 ha, the regulation of this forest in a 25-year cycle will allow annual harvesting (and planting) of 238 ha. By taking into account the current stock (3,206,106 m³), the thinning regime adopted by the company and the mean stand increment (30 m³/ha.yr), the volume production to perpetuity will be approximately 256,000 m³/year or 21,000 m³/month.

The *Eucalyptus* stand regulation will be started in 2023, with harvesting and annual planting in 35 ha. By considering the current stock, the mean increment (50 m³/ha.yr), and the thinning regime as described, the production will be variable until 2034. Thereafter, the production will

stabilize to perpetuity in a harvesting regime of approximately 25,000 m³/year or 2,080 m³/month.

1.2.2.4. Inventories

The main inventories done at the company are: Continuous Forest Inventory (CFI), Pre-harvesting Inventory (PHI), Post-thinning Inventory (PTI), Residue Inventory (RI), and Survival Inventory (SI). In the CFI, the populations are sampled among all commercial pine stands older than seven years and *Eucalyptus* older than two years. This inventory is performed every year between June and August. Inventory plots are randomly established. The sampling intensity is one plot in every 10 ha. The number of plots to be established is determined by dividing the stand area by the plot area. However the number of plots is never less than three. The plots must have an area of 400 m² and can be rectangular, square or circular.

The PHI is performed prior to the silvicultural intervention in order to calibrate the thinning intensity and to determine the quantity and quality of the remaining trees and the basal area. This serves, also, to:

- a) Estimate the amount of wood per diameter class to be harvested;
- b) Define the forms and conditions of trading the harvested trees;
- c) Feed the database to enable estimation of plantation yield;
- d) Determine the site index and the basal area of each stand;
- e) Obtain topographic information on the stands for micro-planning of harvesting operations, and;
- f) Map the productivity by determining the geographic coordinates of each measured plot.

The population represented in the sampling for PHI includes all stands in the harvesting (annual thinning and clear-cuttings) program. The sampling procedure and plot sizes are similar to those in CFI.

The PTI is performed for quality control of marking, felling, and skidding operations in stands in thinning process in order to guide and correct distortions in the development of activities. This inventory is based on quality control of the remaining trees and on the quantity of post-harvesting residues. In addition, **stumps**, **stacks** prepared for skidding, and **whole trees** (all trees marked for harvesting but not felled and those that were felled but not bucked) will also be include in the PTI. The sampling is at random. In stands larger than 5 ha, the sampling intensity will be one plot for each 5 ha (1:5). In stands smaller than 5 ha, one plot is established per stand. Plots are 400 m² circles.

Residues are all marketable woody material in the stand that originates from the company's plantation which are:

- a) 0.8 m or more in length; and;
- b) 8.0 cm or more in over bark diameter at the thinnest end.

Forest residues will be classified as **tops** (sections sawn off at only one end) and **logs** (log sections sawn at both ends).

The SI is performed in all projects 60 days after planting and after cover fertilization. This inventory provides data for the estimates of survival rate and to define whether replanting is necessary, and to evaluate planting quality. Sampling is at random in the intensity of one plot for every 4 ha (1:4) in stands larger than 4 ha. In stands smaller than 4 ha, one plot is established per stand. Plots are 400 m² rectangles.

1.2.2.5. Licensing

Florestal Gateados is extremely zealous in regard to conformance with Federal, State and Municipal Laws. To this effect, it hires a legal consultancy service which is provided by Ampessan & Andrade Advogados Associados. Periodically, this company issues reports showing any legal requirement that could be related to the company activity. The pertaining issues are included in **Florestal Gateados** Legal Requirements Matrix to control the company's conformance with the law.

The reforestation and other activities performed by **Florestal Gateados** are supported with licenses by competent government bodies. The licenses include:

- Environmental License for Forestation and Reforestation operations with tree species (FATMA);
- Emilio Einsfeld Filho Private Reserve of the Natural Heritage (MMA/CMBio) creation Ordinance;
- Environmental License to operate deep tube wells (FATMA);
- Water Users National Registry (CNUA) - SDC/SC;
- Environmental License for Gravel Quarry Operations (FATMA);
- Gravel Extraction Licenses (DNPM);
- Environmental License for the establishment of Giroto, Tulia, and São Judas Quarry PRAD (Degraded Area Reclamation Program) - (FATMA);
- Technical report associated with the small fuel trailer (Fireman);
- Environmental Certificate for the Gas Station - (FATMA);
- Gas Station Project Approval Certificate (FATMA/CODAM);
- Waste Landfill Site Operation Environmental License (FATMA/CODAM);
- Environmental License for Rock Crushing Operation (FATMA/CODAM);
- Authorization to cut planted native species from Tulia I Project (FATMA).

1.2.2.6. Research and Development

Florestal Gateados keeps partnership with a number of Brazilian and foreign research institutions. The most outstanding among them are Freiburg University (Germany) and UFPR (Federal University of Paraná). Other entities are also rendered important to broaden the scope of research developed by the company. These include UNIPLAC (Universidade do Planalto Catarinense) and UDESC (Santa Catarina State University). EMBRAPA *Florestas* is also associated to the company through its wood-wasp control program. This program convenes several companies committed with the control this pine pest.

1.2.2.7. Integrated Pest Management

The Integrated Pest Management is a system to control pests. The main objective is to either preserve or increase natural pest mortality factors through the integrated use all possible control approaches. These are selected on the basis of economic, environmental and social parameters in order to keep their population below the level in which they could inflict economic damage. Economic loss level is the point at which a pest population density causes losses similar to its control cost.

The main pests that cause potential economic loss at the company forest stands are leaf-cutting ants (*Atta* spp. and *Acromyrmex* spp.) and wood-wasp (*Sirex noctilio*).

Leaf-Cutting Ants: Monitoring and control of leaf-cutting ants on stand establishment areas are started up to six months prior to planting operation and proceed through the moment of planting operations, and up to a year after planting. Their control on maintenance areas is done only when technically necessary. For its control, the environmental conservation aspects, as well as reduction of control areas and the rational use of pesticides are taken into consideration.

The biological control of leaf-cutting ants is performed through the preservation of native forests in between planted areas and in the surrounding areas. In this way, ant eating birds and wild animals have their habitats preserved and contribute to control this pest. Moreover, the maintenance of areas with some weed away from planting lines and around the seedlings leaves other foraging possibilities for the ants.

The chemical control of leaf-cutting ants is done with either granulated baits or powder. The baits are systematically distributed in appropriate holders, while the powder is applied directly into the ant nest. The application is carried out by trained personnel.

The mechanical control of leaf-cutting ants is done with a physical barriers applied on the seedling collar by using "FORMIFU", an organic, non-toxic, scentless, stretching product that is highly sticky. It simply repels the ants and its effect lasts up to three months. FORMIFU is the

combination of a synthetic polymer, mineral agents, rheological control mineral agent, and dyes. It contains no heavy metal.

Wood-wasp: Wood-wasp is monitored, annually, starting in January. A team of workers walks through the stands looking for attack symptoms.

The wasp control involves:

- Pine stand thinning in the appropriate time period to prevent tree stress;
- Pruning only from February to July in order to avoid the wasp swarming period.
- Removal of dead, dominated, forked, diseased and damaged trees;
- Intensification of management on low-quality sites, where shallow and rocky soils are present.
- Routine surveillance throughout the year.

The direct control measure consists of inoculation of nematodes into the trunks of attacked trees. These nematodes are specific parasites that dwell and reproduce inside the wasps reproductive organ. After swarming and egg laying of the nematode infected wasps, more nematodes are inoculated into the tree trunks instead of wasp larvae. In this way nematodes act as a biological control agent against wood-wasp.

1.2.2.8. Silviculture

Stand establishment is one of the most important phases for the success of forest management. The following items are treated with special attention:

- Use of genetic material that is adequately suited to the type of soil, climate and destination of the raw-material;
- Appropriate soil preparation to suit the requirement of the genetic material in use;
- Soil fertilization according soil analysis and the nutritional requirements of the genetic material in use;
- Spacing defined according to the plantation objectives.

1.2.2.9. Plantation Establishment

The planting is done on areas where preparation begins with windrowing of residues from the previous harvesting in order to keep only the planting areas clean. Subsoiling to 50 cm depth is done along the lines. Planting holes are dug along the lines in a defined spacing and the seedlings are planted manually. If fertilization is required, it is applied during the hole digging operation. The cares after planting include weeding around the seedlings and in between the rows to reduce weed competition. These can be done manually, chemically or by mechanized operations.

1.2.2.10. Stand Management

Stand management involves pruning and thinning operations. Although it is desirable to prune only the dominant and ideal trees with straight stems, homogeneous crown, fine and horizontal branches, the company decided to prune all trees in the stand. This is because selection is subjective and pruning of all trees adds only a low extra cost in comparison to the return.

Florestal Gateados uses the selective thinning method. The wood harvested in the first thinning is used for energy or pulp, and the remaining trees, with larger sizes are used by sawmills or veneer mills.

1.2.2.11. Harvesting

The felling operation is semi-mechanized. It involves chainsaws in thinnings and mechanized operations in clear-cuttings. In some cases, such as on steep terrains, or where rock outcrops or other restrictions are evident, even clear-cuttings are semi-mechanized.

The skidding operation is done by using either animals or machines. These are cranes equipped with a device to keep the front end of the logs lifted in order to reduce environmental impacts.

The logs are loaded on the trucks by using agricultural tractors fitted with forest cranes and then transported to the logyard, where they are stacked according to the assortment for delivery to the customers.

2. STANDARDS USED IN THE ASSESSMENT PROCESS

SCS Interim Standard for Forest Plantation Management Certification in Brazil (version 02 from November 2008) was used to assess **Florestal Gateados Ltda.** forest management. Most part of this standard is based on FSC Standard for Forest Plantations in Brazil (version 9.0) which was approved by FSC-Brazil, but is still to be approved by FSC-International. The Standard can be found on SCS website:

http://www.scs-certified.com/nrc/program_materials.php#fm_pm

3. ASSESSMENT PROCESS

3.1. Assessment Dates.

The audit was conducted from April 6th to 7th, 2010.

3.2. Assessment Team

3.2.1. Auditor Team

Dr. Jarbas Yukio Shimizu is a forestry graduate from the Universidade Federal de Viçosa with M.Sc. in Forest Sciences from the University of Florida (USA), Ph.D. in Forest Genetics from North Carolina State University (USA), and post-doctor in Population Genetics from Oregon State University (USA). Other trainings include Forest Gene Resources Conservation and Forest Tree Species Micro-propagation in Japan; Conservation and Use of Phylogenetic Resources in Spain and Environmental Management System Lead Auditor intensive course in Brazil. He has more than 30 years experience in activities such as development of forest research projects in cooperation with IBDF/PNUD-FAO, and subsequently as a researcher for Embrapa Florestas, where he worked in silvicultural area, tree improvement, forest genetics, and conservation of forest gene resources. He was also the leader of several conservation and genetic improvement projects and held the position of Technical Director of the National Forest Research Center. He has also worked as a consultant in silviculture and improvement of fast growing tree species for official forest research institutions and forest companies in Chile, Mexico, Mozambique, Uruguay and Brazil. He has offered intensive tree improvement courses at Universidad Nacional de Colombia and at Universidade Estadual do Centro-Oeste (UNICENTRO-Campus de Irati), PR. He has also acted as advisor and co-advisor to forestry graduate students at both master and doctor levels in Agronomy and Forestry at the Universidade Estadual de Maringá and Universidade Federal do Paraná. Since early 2008, he has worked as auditor in FSC forest management and carbon offset in Brazil for SCS through Sysflor.

Dr. Rosemeri Segecin Moro holds an M.Sc. degree in biological sciences from the Federal University of Paraná (UFPR), Doctor degree in plant biology from UNESP-Rio Claro, and Post-doctor in wildland conservation from the UFPR School of Forestry. She has been an Associate Professor since 1987 at the State University at Ponta Grossa (UEPG) where she teaches undergraduate courses in biological sciences, and graduate courses in land management. She has also served as a graduate student advisor at the School of Forestry at UFPR. She has been a visiting professor in ecology at graduate level at Universidad de Antioquia, Colômbia and has participated in technical visits to the United States, Portugal, and Sweden. She has advised tens of young researchers at

undergraduate and graduate levels and develops environmental projects funded by Fundação Araucária. She has agreements for research in conservation with Universidad Autónoma de Madrid (UAM), ICMBio, COPEL, SEMA/IAP, and others. She has participated in the teams to draft the Conservation Unit Management Plans and the Master Plan for the municipalities in the State of Paraná. She has been part of the Environmental

Studies Core (NUCLEAM) for 20 years and participates in the Vila Velha State Park Managing Council and the Aid Committee to the State Program on Riparian Forests.

3.2.2. Peer Reviewer

Dr. Luciano Lisbão Jr. is a graduate in Agronomy and specialized in Silviculture and Forestry from Escola Superior de Agricultura “Luiz de Queiroz”, Universidade de São Paulo (USP), 1973. He obtained his Ph.D. in Forest Soils and Experimental Statistics at North Carolina State University in 1986. He held the position of Forest Environment Manager at Aracruz Celulose, with responsibility over its environmental licensing process, management and environmental certification and forest certification from 1995 to 2009. He held, also, the position of chief of Embrapa Florestas Forest Research Unit where, for 15 years, he worked in silviculture, soil, and forest nutrition areas. He was co-advisor and member of examination committees in eight M.Sc. and Doctor theses in Forestry at Universidade Federal do Paraná, Forestry and Agriculture at Universidade Federal de Viçosa (Minas Gerais State), and Meteorology at INPE (National Institute of Space Research). Currently, he works as Environmental Consultant for Fibria Celulose (successor of Aracruz Celulose and Votorantim Celulose e Papel). He is also instructor in Statistics in a Long Distance Undergraduate Course in Environmental Management at UNIVIX (Faculdade Brasileira, Vitória – State of Espírito Santo).

3.3. Audit Process

3.3.1 Itinerary

The audit opening meeting was held on April 5th, 2010, in presence of members of company managers, administrators and technical staff at the company headquarters in Campo Belo do Sul, Santa Catarina State. Audit procedures to be followed and the FSC Principle and Criteria were explained. Then, the assessment team and the company personnel discussed and planned the audit activities. The audit began with verification of the FMU maps, location of operations under way, conservation areas, plantations, roads, and other details. Jarbas Shimizu dedicated the initial part of the day to the analysis of aspects related to:

- Hiring of service contractor companies;
- Company's social actions;
- Health and labor safety programs;
- Training;
- Communication channels with the community;
- Contracts with academic and research institutions;
- Wage policy;
- Collective labor agreements with the union.
- Optimizing of forest products use.

The field visit was started with an inspection of the pesticide storage and its stock control system. A manual thinning operation performed by a contractor company was inspected. Chainsaw operators and helpers were interviewed and conditions of vehicles for workers transportation were checked. On the same day, soon after the opening meeting, Rosemeri Moro spent the time to analyze documents on environmental and social aspects in order to plan her audit work. In the afternoon, she visited the company areas to check with them with the maps, the condition of the road system, and the Permanent Preservation Areas at Morro Agudo, Ilhas, and Vacas Gordas sectors. She visited, also, the Emilio Einsfeld Filho Private Reserve of the Natural Heritage in order to verify the conditions of the High Conservation Value Forest and of the Permanent Preservation Area next to Barra Grande Powerplant, and the relocation process of *Dyckia distachya* (an endangered endemic bromeliad). This work is being carried out with participation of BAESA. Other activities verified during the audit included the Ilhas educational

and environmental project. She visited, also, soil research trails and facilities under the coordination of UDESC. The inspection included the waste landfill and its license, the gas station and the machine washing facilities.

In the evening, a public meeting has held for stakeholder consultation at the City Council in Campo Belo do Sul to discuss environmental, social, and economic aspects of **Florestal Gateados Ltda** forest management with representatives from the community.

On April 6th, 2010, Jarbas Shimizu continued auditing documents; he interviewed key leaders of the community, such as:

- The President of Campo Belo do Sul Labor Union, Mr. Nadir Dario Duarte;
- The Mayor of Campo Belo do Sul, Mr. Firmino Aderbal Chaves Branco;
- The Campo Belo do Sul City Hall Administration Secretary, Mr. Luiz Carlos Alves Freitas.

On the same day, Rosemeri Moro visited Morro Agudo in order to inspect the workers' camping and water collection in wells. At the place known as Cafufo, she evaluated the environmental license, the gravel quarry environmental reclamation plan, and the working conditions of the *Cupressus* manual pruning crew. At the main office, she spent a time to inspect the company GIS program.

On April 7th, 2010, the auditors convened to discuss the inspected items and to wrap up the evaluation notes and to draft the conclusions of the audit. Then, the audit closing meeting was held in the presence of the company directors, administrators, and the technical staff. During this meeting, comments were made on all weak points that were observed and the pre-conditions for certification were presented. At the end of the day, a visit was paid to FATMA (Santa Catarina Environmental Foundation) in Lages, in order to verify the existence of possible pending issues, processes or complaints associated with **Florestal Gateados Ltda**. Mr. Fábio Bento, the Regional Environmental Development Manager was interviewed.

3.3.2 Stakeholder Consultation

According to SCS procedures, stakeholder consultation involving the most relevant local leaders is one of the most important components of the forest management assessment process. Stakeholder consultations were held before the field assessment by sending letters to a number of institutions (Annex 01). There were several consultations in several localities throughout the assessment. Moreover, the assessment team interviewed representatives from several segments of the civil society and people living in the neighborhood of the FMU. The assessment team interviewed labor union leaders, representatives from public institutions and private organizations, local leaders and politicians. The main objectives of the consultation were to:

- Gather information from stakeholders about their perceptions on the strong and weak points of **Florestal Gateados Ltda**. forest management and the nature of interaction of the company with the neighboring population.
- Verify whether forest managers have arranged stakeholder consultation to identify any High Conservation Value Areas.

The main stakeholders involved in this assessment were identified from the SCS database, the list presented by the company, by checking other sources, as well as the FSC-Brazil list. The following groups were defined as the main stakeholders:

- Company employees, including directors and field personnel
- Contractors
- Neighboring property owners
- People living in the neighborhoods
- FSC-Brazil members

- Local and regional environmental NGO members
- Local and regional social NGO members
- Company log buyers
- Federal, state, and municipal environmental agency officials (license, inspection)
- Other relevant groups.

3.3.2.1. Model - Public Consultation at Florestal Gateados Ltda.

PUBLIC MEETING

INVITATION

FSC Forest Management Certification of Florestal Gateados Ltda. in Campo Belo do Sul, SC, Region

SCS (Scientific Certification Systems – www.scscertified.com), FSC-endorsed certification body invites you to attend a Public Meeting which marks the beginning of the certification process requested by Florestal Gateados Ltda for its FMU in Campo Belo do Sul and Capão alto, Santa Catarina State. The company develops a planted forest management, mainly with pines and *Eucalyptus* in the municipalities of Campo Belo do Sul and Capão Alto, in the State of Santa Catarina, on a 16,390.5 ha land base of which 6,311.25 ha are planted to pines, 438.26 ha to *Eucalyptus*, and 576.57 ha to *Araucaria angustifolia*, *Cryptomeria japonica*, *Cunninghamia lanceolata*, *Cupressus lusitanica*, *Ilex paraguariensis*, and others.

Florestal Gateados Ltda is engaged in the production of logs to an array of customers, such as saw-mills, several types of boards and pulp mills, and for energy fuel. Its workforce includes 149 direct employees and 83 contractor workers. In the social and research areas, the company develops a number of works in partnership with social, academic and research institutions.

The FSC Certification Process includes the participation of the civil society through the public meetings to be held in Campo Belo do Sul, on the 5th of April 2010, at the local City Council between 7:00 to 9:30 PM.

It is emphasized that participation of the representatives of a diversified segments of the civil society is most important, since Forest Certification assumes the full exercise of citizenship of individuals and institutions directly or indirectly interested in the matter. Likewise, the candidate must develop its forest management in conformance with the FSC Principles and Criteria, which assumes that the company will promote a management that is *socially fair, environmentally adequate, and economically viable*.

It is important to mention that the meeting will be held in the absence of the company during the evaluation process (to be carried out from the 5th to the 7th of April, 2010). Its objective is to gather suggestions and concerns as guides for field audits to evaluate the development of the forest management in the *social, legal, environmental, and economic* aspects. Thus, your attendance is important so that everyone can bring up concerns, comments, suggestions, criticism, or to expose new evidences that may be useful in the process. These will be fully recorded in the presence of all participants.

The meeting will be divided into two parts:

- a) Presentation of the forest certification process, according to FSC (Forest Stewardship Council) Standards; at this phase, participants can clear any doubt.
- b) Expression of concerns or aspects that attendants may wish to have included in the Florestal Gateados Ltda Forest management certification process.

If interested, you will find attached a Questionnaire to be filled out and sent to the following e-mail: vanilda.souza@sysflor.com.br or, if preferable, by fax to (41) 3344-5061. Moreover, if more detail is required on the *FSC Standards for Forest Plantations in Brazil*, this document can be found at FSC website (www.fsc.org.br) on the item *Certification Standards*. It is possible to download for free in Word format.

Therefore, everyone is invited to attend the Public Meeting, independently of having or not formally received this letter. We request that you publicize the event and the attached Questionnaire to institutions and people of your knowledge that may have interest in taking part of the process.

Respectfully

Vanilda Souza
SCS/Sysflor Auditor

3.3.2.2 Model – Public Consultation Questionnaire

PUBLIC CONSULTATION QUESTIONNAIRE

FSC Forest Management Certification of Florestal Gateados Ltda. in Campo Belo do Sul, SC, Region

FLORESTAL GATEADOS LTDA.

Name												
Institution												
Address for contact												
ZIP:						-						<i>Email</i>
<p>1. Do you know <u>FLORESTAL GATEADOS LTDA.</u>?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p>												
<p>2. Would you have any comment to make about <u>FLORESTAL GATEADOS LTDA.</u>?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p>												
<p>3. What would be the comments?</p>												
<p>4. Do you know about any peculiarity within the areas of <u>FLORESTAL GATEADOS LTDA</u> with <u>special ecologic importance</u>?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p>												
<p>5. Which would be the areas (where are they located) and which are the characteristics that make them important for conservation?</p>												
<p>6. Is there any aspect with regard to the environment that you consider to be worthy of attention in the field assessment?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>What would be this (these) environmental aspect(s)?</p> <p>6.1 _____</p> <p>6.2 _____</p>												
<p>7. Is there any aspect in the social area that you consider to be worthy of attention in the field assessment?</p> <p style="text-align: center;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>What would be this (these) social aspect(s)?</p> <p>7.1 _____</p> <p>7.2 _____</p>												
<p>The present questionnaire has the objective to let citizens from all backgrounds and interests, or</p>												

representatives from institutions of the civil society participate actively in the process of FSC Forest Certification. Thus, we request that this questionnaire be sent to the following E-mail: vanilda.souza@sysflor.com.br . If you prefer, it can be sent to the following fax: (0xx41) 3344-5061. We would appreciate if you could send out this questionnaire to those who, in your opinion, can contribute to the process.

OBS.: a) The identity of the contributors with observations in this questionnaire will not be disclosed in the documents of the Certification Process.
 b) The participation of interested parties in this Public Consultation does not imply any co-responsibility in the Certification Process.

A Public Meeting was held in Campo Belo do Sul and it was complemented by interviews with local leaderships, such as representatives from the City Hall, representatives from labor unions and official environmental agencies.

3.3.2.3 Summary of public concerns and responses from the company.

Representatives from Campo Belo do Sul City Council, as well as from the local newspaper, political parties, the local hospital curator, industries, and agriculture attended the Meeting.

Social Concerns

Question: Herds of wild boars and their crossbreeds with domestic pigs take refuge in Florestal Gateados conservation areas and have caused damage to neighboring agriculture areas. What kind of strategy is the company willing to adopt to solve this issue?

Reply: Florestal Gateados is aware of the neighbors' concerns and, in partnership with university research teams, it has been articulating a study project on these animals.

There were no environmental or economic concerns.

3.3.3. Other assessment techniques

No other assessment technique was used than those normally in use such as field visits, interviews, public consultation, and checking of documents.

3.4. Total Time Spent on Audit

An auditor team was formed to evaluate the forest management developed by FLORESTAL GATEADOS LTDA. The assessment team reviewed the company documents, visited operational activities in the FMU and the farms included in the scope of certification. Employees (both direct and contractor employees) and stakeholders were interviewed in order to gather elements and evidences of conformance (or not) with FSC Principles and Criteria. All together, 52 hours were spent with on site evaluation, which correspond to 3.25 days per auditor.

(hours)

Activity	Jarbas	Rosemeri
Stakeholder Consultation	2	2
Documents	8	8
Field	10	10
Evaluation Meeting	4	4
Closing Meeting	2	2
Total	26	26

3.5 Process to Determine Conformance

The certification standards defined by FSC involve three hierarchical levels: the Principles which cover general aspects, the Criteria which detail each principle, and the Indicators which detail each criterion. According to SCS Forest Conservation Program assessment protocols, the assessment team, collectively, must decide whether a given forest operation is in conformity with any applicable indicator within the relevance of the certification standard. Each non-

conformity to a criterion or sub-criterion must be evaluated whether it is a major or a minor non-conformity. Not all indicators have the same importance and there is no numerical form to determine whether a given operation is in non-conformity. The team must use a collective judgment to evaluate each criterion and decide on its conformity. When an operation is considered to be in non-conformance for a given criterion, at least one of its indicators must be evaluated as in non-conformity. Corrective actions request (CAR) is defined for each non-conformity. Major non-conformities are known as Major CAR and minor non-conformities as minor CAR or just CAR.

3.5.1 Interpretations of Major CAR (Pre-conditions), Minor CAR and Recommendations

Major CAR/Pre-conditions: these are major non-conformances, either individually or in combination with non-conformances to other indicators that result (or are likely to result) in a fundamental failure to achieve the objectives of FSC criterion, given the uniqueness and fragility of forest resources. These are corrective actions that must be complied with or closed before the certificate is issued. If major CAR is identified after certification, the time frame to correct it is typically shorter than for a minor CAR. The certification will remain contingent on the certified operations response to the CAR within a defined time frame.

Minor CAR: these are corrective action requests in response to minor non-conformances, which are typically limited in scale or can be characterized as an unusual lapse in the system. Corrective actions must be closed within a specified time period after the certificate is issued.

Recommendations: these are suggestions that the audit team presents in order to help the company to achieve an ideal performance. Actions toward the recommended issues are voluntary and do not affect the maintenance of the certificate. Recommendations can be changed to CAR if the company performance with respect to a given criterion is affected by the negligence in complying with these recommendations.

4 RESULTS OF THE EVALUATION

The assessment team conclusions, regarding the weak and strong points of Florestal Gateados forest management, in terms of the FSC certification standards and the number of Corrective Actions Requests (CARs) are shown below:

4.1 Main strong and weak points of the forest management at Florestal Gateados Ltda. in relation to FSC P&C.

Principle/Sub ject area	Strengths relative to the standard	Weaknesses relative to the standard	CAR/REC #s
P1: Compliance with the law and with FSC Principles	<ul style="list-style-type: none"> - The forest management is conducted in conformance with the national and local laws – there has been no fine or demeanor adjustment term determined in the last five years. - Fees and taxes inherent to the activity have been paid – proofs were verified at the company archives. - There is long-term commitment to maintain representative samples of the existing ecosystems – the company has already registered at the notary office more than 22 % of its areas as Legal Reserve. This is more than the minimum percentage required by law. This area is included in the Private Reserve of the Natural Heritage, which covers 6,329.6 ha. An 		

	<p>additional area of 1,239.3 ha were set aside as Permanent Preservation Areas, as required by law..</p> <ul style="list-style-type: none"> - Legal Reserve areas registration process already concluded and registered at the notary office. - The forest management areas are well-controlled and protected against illegal harvesting, invasion and other non-authorized activities. There are only three points of access to the property. All of them are equipped with gates and checkpoints for identification of vehicles and persons in transit. - Conformance with the conditions of environmental licenses obtained by the company. 		
P2: Rights and responsibilities of land use and tenure	<ul style="list-style-type: none"> - All areas owned by the company are properly documented. Land tenure documents were verified. 		
P4: Community relations & workers' rights	<ul style="list-style-type: none"> - The company sets priority to hire workers within the municipality where its management areas are established. - The employees' wages are 20% higher than the average of the forest sector in the region. This has been verified at the company records and confirmed by the president of the local rural labor union. - The company strengthens the local economy by hiring service providers and suppliers in the region. 	<p>There are evidences of the workers medical examinations required at hiring, routine, dismissal, and at changes in position. However, some occupational health certificates do not show the doctor's decision.</p> <p>There is a need to specify workers functions and to define the personal protection equipments that workers are required to use, as well as the training, and specific medical examinations.</p> <p>The persons in charge of labor safety have not prevented visitors to wander through the work fronts without wearing appropriate personal protection equipments.</p>	<p>REC 2010-1</p> <p>CAR 2010-4</p> <p>CAR 2010-5</p>
P5: Benefits from the Forest	<ul style="list-style-type: none"> - The forest management is conducted in an objective and entrepreneurial manner, with the objective to supply wood to different industrial sectors (veneer, sawtimber, wood panels, and energy), each one with specific requirements in diameter. This constitutes a model of multiple use strategy to maximize forest product 		

	<p>use.</p> <ul style="list-style-type: none"> - The company promotes the use of local goods and services. Thus, jobs and income are generated in the region – this has been confirmed during interviews with the company employees and contractor workers. - Representative samples of the existing ecosystem are protected in the FMU in their natural state. Conservation areas are constantly watched over against illegal activities and a permanent crew dedicated to remove exotic tree species from natural ecosystem conservation areas. - There is a continuous forest inventory program showing that the production estimates is equivalent to the figures obtained in the inventory. Continuous inventories constitute the basic tools for the management of the company forest, as described in the forest management plan. - There is a surplus of wood stock. By considering the forest base and the figures on the mean annual volume increment against annually harvested volume. In order to maintain sustainability in forest production, the annual harvesting could be up to 250,000 m³. However, harvest volume does not exceed 160,000 m³/yr, (158,674 m³ in 2008 and 145,429 m³ in 2009). - There is an adequate plan to prevent and fight forest fire. The infrastructure includes internal road network, four fire towers equipped with compass and radios, four-wheel drive tank trucks, reserve tanks transported by other vehicles, several tools and trained crews. - Use of biological control agents is documented, monitored, and controlled. The biological control agent in use is a nematode to control wood-wasp. These are supplied by Embrapa Florestas upon the company demands. Both application and the efficiency of the control method are monitored by UDESC/CAV - The company does not use genetic modified organisms. All plantations are established with seedlings originated from orchard seeds. 		
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<p>P6: Environmental Impact</p>	<ul style="list-style-type: none"> - The company maintains valuable cooperations with UFSC and BAESA to conduct wildlife and vegetation surveys at the FMU. - There is a plan to prevent and fight forest fires as detailed in the Management Plan. - In addition to the Permanent Preservation Areas and the Legal Reserve, the company maintains a strategic natural vegetation area as the Private Reserve of the Natural Heritage. Emílio Einsfeld Filho Private Reserve of the Natural Heritage was established with 6,328.6 ha and includes parts of Campo Belo do Sul and Capão Alto municipalities in the State of Santa Catarina (on September 10th, 2008, by Instituto Chico Mendes de Conservação da Biodiversidade - ICMBio). - The efforts to restrict chemical pesticide use include alternatives such as biological control against wood-wasp and manual and/or semi-mechanized clearing of competing weeds. The company is engaged in the biological control of wood-wasp in partnership with Embrapa Florestas and the Santa Catarina Tree Planters Association. - There is a meticulous and efficient management, handling, and disposal of chemical product residues and packages. The company established a Waste Management Program (as shown in the Management Plan) which covers all types of residues and the correct destination for each category. - There is an efficient control of the dispersion of commercially used exotic species. The company maintains a team dedicated to control exotic tree species in conservation areas, as described in the Silvicultural Operational Procedures PO-01. 	<p>Historic and archeological studies have not been done, nor are there references to important remnants of rock fences in the area.</p> <p>There is no identification or monitoring of potential wildlife corridors between native vegetation fragments.</p> <p>Pesticide storage and control are done by an individual worker and there is no written procedure to be followed by eventual substitute.</p> <p>Products based on Fipronil, DMA (2,4-D), and Deltamethrin, which are banned by FSC were found , at the storage.</p> <p>There is no plan to control and monitor the over population of native and exotic wild pigs (wild boars and their crossbreeds).</p> <p>Potentially affected parts (neighbors) have not been informed about the use of chemical pesticides in the FMU by the company.</p>	<p>CAR 2010-11</p> <p>Major CAR-2010-3</p> <p>CAR 2010-7</p> <p>CAR 2010-6</p> <p>CAR 2010-12</p> <p>Major CAR-2010-1</p>
<p>P7: Management Plan</p>	<ul style="list-style-type: none"> - There is a Management Plan which is appropriate to the scale and intensity of the operations; there are proposals that are being implemented and updated. The forest management long-term objectives and the means for achievement are clearly described in the Management Plan. 		

	<ul style="list-style-type: none"> - There is a clear description of the forest resources to be managed and of the management system, according to its characteristics. - The summary of the management plan was made available for public consultation. All basic information on the management plan was made available through the publication of a booklet for distribution to the public. - There is a description and justification for the chosen harvesting techniques and equipments used. There is a detailed description of the environmental conditions to be observed in choosing log harvesting equipments. - There is a plan to prevent and fight fires, trained crews, and defined responsibilities. The forest fire prevention and fighting program, as described in the Management Plan, is established and in operation. 	<p>The document on Harvesting Plan and Log Sale are not referred to on the Management Plan.</p> <p>The Management Plan does not show a plan to identify and protect rare and endangered species, as well as sites and rare and endangered animal reproduction areas, and wildlife corridors.</p> <p>The Management Plan does not show description of procedures for its review. There has not been any event or mechanism to involve the local community to explain about the company forest management plan.</p>	<p>REC. 2010-2</p> <p>CAR 2010-8</p> <p>CAR 2010-9</p>
<p>P8: Monitoring & Assessment</p>	<ul style="list-style-type: none"> - All information gathered through monitoring are recorded in the data bank and used to review forest operations and the management plan. During the audit, the availability of a large volume of information in support to forest operation decisions was verified. - There is a costs and productivity control system at the FMU. The comparison of the costs (expenses) against the income along the years shows the profitability of the company forest management venture, as shown in the Management Plan. 	<p>There is no identification and monitoring of potential wildlife corridors between native vegetation fragments. There is no structured wildlife and vegetation monitoring, although there are several projects, some of them are independent and others somehow related to each other, within the monitoring of Barra Grande Powerplant reservoir filling.</p> <p>The Summary of the Management Plan does not show information on the results of the monitoring indicators.</p>	<p>CAR 2010-14</p> <p>Major CAR-2010-2</p>
<p>P9: Maintenance of High Conservation Value Forest</p>	<ul style="list-style-type: none"> - The company has shown a proactive attitude regarding conservation of natural ecosystems. It took the initiative to establish a Private Reserve of the Natural Heritage containing a rich biodiversity. Emílio Einsfeld Filho Private Reserve of the Natural Heritage covers 6,328.6 ha, including parts of Campo Belo do Sul and Capão Alto Municipalities 		

	<p>(Santa Catarina).</p> <ul style="list-style-type: none"> - The Private Reserve of the Natural Heritage is managed according its specific management plan. It constitutes an HCVF and the identified high conservation value attribute is the presence of <i>Dyckia distachya</i> (an endemic and endangered bromeliad). 		
<p>P10: Forest Plantation</p>	<ul style="list-style-type: none"> - The forest plantation objectives are clear in the management plan, including conservation of permanent preservation areas and legal reserves. - The company fully complies with the requirement to maintain the legal reserve and it has been adjusting the permanent preservation areas as needed. More than 22% of its areas were already entered as Legal Reserves at the notary offices. This exceeds the minimum percentage required by law. - Company forest operations promote effective protection of large remnants of native forests. This favors conservation of important habitats of wild species. The remnants areas of the native forest in the forms of APP (Permanent Preservation Areas), RL (Legal Reserve), and RPPN (Private Reserve of the Natural Heritage) which are protected from harvesting and other damages add up to 8,270.7 ha. - All protected natural ecosystems (APP, RL, and RPPN) are identified on maps. - The selection of the species for planting is based on their full adaptation to the region of operation, in conformance with the objectives as stated in the management plan. <i>Pinus taeda</i> and <i>P. elliottii</i> are the most planted species due to their adaptation to the region as seen for decades. Species in experimental phase in regard to adaptation to the region are planted in limited scale. - The company practices such as minimum cultivation, no use of fire, and the maintenance of litter at the harvesting site favor conservation of soil properties. - There has not been conversion of natural vegetation areas into commercial plantations since 1994. 	<p>The Permanent Preservation Area around the dam needs to have its width adjusted.</p> <p>Company can improve the monitoring of pesticide use by plotting the monthly volumes on graphs.</p>	<p>CAR 2010-10</p> <p>REC 2010-3</p>

	This was verified at the company records and confirmed in interviews with the FMU neighbors.		
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4.2 Pre-Conditions (Major CARs)

Pre-conditions defined during Florestal Gateados Ltda complete evaluation are shown as follow. The company demonstrated compliance with all of them, which were analyzed, accepted and closed by the assessment team.

Nonconformity: Information on the use of chemical pesticides in the FMU has not been given to potentially affected parties.	
Major CAR 2010-1	Inform potentially affected parties about the use of chemical pesticides in the FMU.
Reference:	P6.c11; P6.c11.i1, i2
Company action	The company elaborated a document (CE-28/10; Annex 1) with description of the products used, their risk to the environment and to human health, and the adopted practices. It was emphasized that, if potentially affected parties present any problem related to the pesticides in use, they should contact the company on phone number (49) 3249-3000. The letters presenting this document are being sent to potentially affected parties with confirmation of receipt.
Status	Pre-condition complied with.

Nonconformity: The Summary of the Management Plan does not show information on the results of the monitoring indicators.	
Major CAR 2010-2	Include the results of the monitoring indicators in the Management Plan, together with those listed on item P8.c2 and, also, brief comments on them in the summary of the Management Plan to make them available to the public.
Reference:	P8.c5; P8.c5.i1
Company action	<p>The monitoring of:</p> <p>P8.c2.i1: Production: The company maintains a monthly production log at the FMU; at the end of the year, the final production is recorded in the document FPS 4.5.1 – I – 01 (Annex II –2009 production). The monitoring of production in previous years is presented in the Management Plan, page 263, in the form of a production x sales price graph.</p> <p>P8.c2.i2: The monitoring of the forest growth rate is recorded in the document FPO 03–I–00 known as “Project Surveillance” (Annex III). This document was created in order to draw the background of facts in the projects. Growth rate results are summarized on table (Annex IV). This table was included in the forest management plan and its public summary.</p> <p>P8.c2.i3: Fragmentation and connectivity: The FMU maintains connectivity among natural ecosystems through the Private Reserve of the Natural Heritage (a 6,328.6 ha contiguous area) and its forest management in mosaic patterns to provide enhance wildlife movement.</p> <p>P8.c2.i4. The monitoring of changes in vegetation and wildlife started in 2009. In that year, the company made a survey on vegetation and wildlife species existing in the FMU and started the monitoring. In 2010, there will already be data to be compared with 2009 figures.</p> <p>P8.c2.i5: The frequency of fire and the area affected are monitored according to the document FPO 15–II–02 (Annex V).</p> <p>P8.c2.i6: The system to assess environmental impacts in the FMU is described on the document PS 4.3.1 (Annex VI); each activity is described</p>

	with the associated impacts and appended on the operational procedures. P8.c2.i7: Costs and production control systems are monitored with a specific program (SICOF) and the results are shown on pages 261 to 263 of the forest management plan.
Status	Pre-condition complied with.

Nonconformity: There is neither identification nor monitoring of potential wildlife corridor areas between native vegetation fragments.	
Major CAR 2010-3	Elaborate a program to identify (in GIS environment) wildlife corridor locations in the FMU, with guidelines to ensure minimum interference by the management operations.
Reference:	P6.c2.i6; P8.c1; P8.c1.i1
Company action	The company developed system to monitor wildlife sightings (FPO 02-I-00 Annex VII). This form was distributed to contractor companies, foreman, supervisors, and coordinators. The system is already in operation (Annex VII). All information contained in the document FPO 02-I-00 were incorporated into the SIG data bank.
Status	Pre-condition complied with.

5 CERTIFICATION DECISION

5.1 Certification Recommendation

As determined by the SCS Forest Conservation Program evaluation protocols, the evaluation team hereby recommends that **Florestal Gateados Ltda.** be awarded the FSC certification of "Well-Managed Forest" for a period of five years (2010-2014), subject to the compliance with corrective action requests stated in Section 5.2. **Florestal Gateados Ltda** has demonstrated that its management system is capable of ensuring that all requirements of the SCS Interim Standard for Planted Forest Management certification in Brazil, Version 02 from November 2008 are met over the forest area in the scope of certification. The company has demonstrated, also, that the described management system is being implemented consistently over the forest area covered in this assessment.

5.2 Corrective Action Requests (CAR) and Recommendations (REC)

Minor Cars

Nonconformity: On the employees' Environmental Risk Prevention Program (PPRA), workers in the same category perform different tasks when applying pesticides. There is a need to distinguish worker categories in order to determine the specific PPE required, as well as specific training, and medical exams that are necessary for each category.	
CAR 2010-4	Differentiate the chemical pesticide applicators from the general rural worker category and specify the PPE, training, and medical exams required for each category..
Reference:	P4.c2C.i3
Deadline:	2011 Audit

Nonconformity: The person in charge of labor safety has not been preventing visitors to wander through the work areas without wearing the appropriate PPE.	
CAR 2010-5	Establish procedures to monitor the use of adequate PPE by every worker categories and working environment, and to enforce its use also by other authorized to wander through the FMU areas (service providers, visitors, etc.).
Reference:	P4.c2C.i5
Deadline:	2011 Audit

Nonconformity: Chemical products based on Fipronil, DMA (2,4-D), and Deltamethrin, which are

banned by FSC, were found the company warehouse.	
CAR 2010-6	If Florestal Gateados Ltda is certified, it must discontinue the use of chemical pesticides based on Fipronil, DMA (2,4-D), and Deltamethrin until the derogation request is evaluated by FSC.
Reference:	P6.c6.i9
Deadline:	2011 Audit

Nonconformity: Pesticides are stored and controlled by a person and there is no written procedures to be followed by others, in case the person needs to be replaced.	
CAR 2010-7	Elaborate written procedures for control, maintenance, and handling of chemical pesticides at the warehouse.
Reference:	P6.c6.i2; P10c7i5
Deadline:	2011 Audit

Nonconformity: The Management Plan does not show procedures for its review	
CAR 2010-8	Elaborate written procedures to review the Management Plan, including a subtitle on the changes that made since the previous version.
Reference:	P7.c2.i1
Deadline:	2011 Audit

Nonconformity: There has not been any event or mechanism to involve the local community to explain the company forest management plan.	
CAR 2010-9	Establish and implement a program to involve the local community to explain the company forest management plan.
Reference:	P7.c4.i3
Deadline:	2011 Audit

Nonconformity: The Permanent Preservation Area around the dam in front of the workers camp at Capatazia de Morro Agudo needs to have its width adjusted.	
CAR 2010-10	Correct the width of the permanent preservation areas around the dam in front of the workers camp at Capatazia de Morro Agudo.
Reference:	P10.c5.i1
Deadline:	2011 Audit

Nonconformity: Historic and archeological studies were not conducted, nor is there any reference to important remnants of rock fences in the area.	
CAR 2010-11	Conduct historic and archeological surveys in the area, including the number, extension and place (on maps) of old rock fences in the company areas.
Reference:	P6.c1.i1
Deadline:	2011 Audit

Nonconformity: There is no plan to control and monitor the over population of native and exotic wild pigs (wild boar and "javaporcos").	
CAR 2010-12	Establish a system to monitor native and exotic wild pigs, so as to draft a plan of action based on its results.
Reference:	P6.c9.i2
Deadline:	2011 Audit

Nonconformity: There is no plan to identify and protect species that are rare, endangered, and threatened to extinction, as well as reproduction sites of these animals and wildlife corridors.	
CAR 2010-13	Elaborate a plan to identify and protect species that are rare, endangered, and threatened to extinction, as well as reproduction sites of these animals and

	wildlife corridors; implement and include this plan in the Management Plan.
Reference:	P7.c1.i9
Deadline:	2011 Audit

Nonconformity: There is no structured wildlife and vegetation monitoring in the company FMU, although there are several projects, some of them independent, while others related to each other within the monitoring of Barra Grande Powerplant reservoir filling process.	
CAR 2010-14	Elaborate a structured wildlife and vegetation monitoring in the company FMU.
Reference:	P8.c2.i4
Deadline:	2011 Audit

Recommendations

Justification: There are evidences of workers medical exams performed at hiring, routine and at dismissal, as well as examinations due to change in position; however, some occupation health certificates are imprecise in regard to the doctor's decision (signature without indicating whether the worker is or not fit for the job).	
REC 2010-1	Revise the workers' health certificates and fix the imprecision on the information regarding the doctor's decision on the workers fitness to perform the job.
Reference:	P4.c2A.i2

Justifications: The document on harvesting and log sales plan (semiannual) is not referred to in the management plan.	
REC 2010-2	Cite references (names, codes, etc., e.g. Harvesting Plan and Log Sale) with details on the processes mentioned in the Management Plan.
Reference:	P7.c1.i2; P7.c1.i4

Justifications: No record of pesticide consumption in the FMU was presented.	
REC 2010-3	Prepare graphs showing records of chemical product consumption in the FMU at least once a year (monthly is ideal), followed by interpretation reports in regard to increases or reduction in volume.
Reference:	P10.c7.i5

6 Monitoring Evaluation

According to the FSC principles and criteria, a certified company must go through a monitoring audit, at least once a year, in order to check the compliance with each corrective action request and to review the continuity of conformances to SCS Interim Standards for the certification of planted forest management in Brazil, version 2.0, November, 2008. The public summary of the assessments of **Florestal Gateados Ltda.** will be posted on the SCS webpage (www.scs-certified.com).

7 SUMMARY OF SCS PROCEDURES ON COMPLAINT INVESTIGATION

Following is a summary of the SCS complaint investigation procedures. The full procedures are available at SCS upon request to any organization that feels any problem regarding the SCS Forest Conservation Program and has reasons to question SCS for its actions or in regard to an SCS certificate holder. The SCS procedures for the investigation of appeals constitute the first court and mechanism for friendly solution, thereby avoiding the need to involve FSC. Complaints can originate from our clients (for example, forest owners, companies or retailers) or from other stakeholders. In order to have a standard in this procedure, the complaints should be made in writing, followed by support evidences and submitted within 30 days after the occurrence of the actions that gave rise to the complaint.

The written Complaint or Appeal must:

- Identify and provide contact information for the complainant or appellant;
- Clearly identify the basis of the aggrieved action (date, place, nature of action) and which parties or individuals are associated with the action;
- Explain how the action is alleged to violate an SCS or FSC requirement, being as specific as possible with respect to the applicable SCS or FSC requirement;
- In the case of complaints against the actions of a certificate holder, rather than SCS itself, the complainant must also describe efforts taken to resolve the matter directly with the certificate holder;
- Propose what actions would, in the opinion of the complainant or appellant, rectify the matter.

Written complaints and appeals should be submitted to:

Dr. Robert J. Hrubes
Senior Vice-President
Scientific Certification Systems
2200 Powell Street, Suite 725
Emeryville, California, USA94608

As detailed in the SCS-FCP Certification Manual, investigation of the complaint or appeal will be confidentially conducted in a timely manner. As appropriate, corrective and preventive action and resolution of any deficiencies found in products or services shall be taken and documented.