



## **GENERAL MANAGEMENT PLAN URUGUAY- Pubic Version (Version 4 - August 2013)**

### **TAURION S.A.- MONTE FRESNOS S.A. – PONTE TRESA S.A.**

#### **THE ORGANIZATION**

BTG Pactual (BTGP) operates as a business unit based in Atlanta, Georgia (USA). The group tailors timberland portfolios in different regions of the world and manages forest resources based on forest conditions and on clients' needs and objectives.

The group started its activities in Uruguay in 2005, with the creation of the Southern Cone Timber Holdings, LLC investment fund and TAURION S.A. Timberlands. Subsequently the group established the Criollo Madera investment fund and MONTE FRESNOS S.A. and the Bosques del Sur investment fund and PONTE TRESA S.A. Timber production from these companies is intended mainly for pulp, sawtimber, energy and others uses, both for foreign and domestic markets.

#### **POLICY**

BTG Pactual manages clients' assets in an economically sound, environmentally sustainable, and socially responsible manner.

The group is committed to maintaining and improving the health and productivity of clients' forestlands, while protecting and enhancing the environmental and economic attributes of the lands in order to ensure current and future availability of natural resources.

All the activities of the companies managed by the group are conducted in compliance with applicable local, national and international laws and regulations.

The general management strategy is designed to minimize environmental and social impacts. Special attention is given to protecting high conservation value areas and cultural features, as well as respecting the rights and traditions of local communities.

#### **MANAGEMENT OBJECTIVES**

According to the BTGP general goals, management objectives in Uruguay include:

1. The production of certified timber for pulp, lamination and lumber markets.
2. The optimal use of forestlands by combining timber and livestock production according to land conditions and potential for each activity.
3. Obtaining multiple benefits from forestlands based on their attributes and in consideration of potential interests by stakeholders.
4. Maintaining and improving the main ecological functions in the areas of influence, particularly as related to regional systems (e.g. basins, wildlife corridors).



5. Conducting operations in a socially responsible manner, under high security conditions for all personnel and contractors and in accordance with all applicable regulations.
6. Producing a general positive effect on local communities.
7. Combining efforts with other forestry companies by exchanging information and carrying out joint activities with regard to production, environmental and social issues.

## **FORESTLAND SERVICES**

Uruguay forestlands are mainly used for growing timber products from tree plantations, while managing native forests as conservation areas.

BTGP companies also seek to take advantage of forests for other purposes according to traditional activities in the areas of influence. Livestock grazing is the most common use of forestlands, followed by beekeeping, mushroom harvesting and others. Access to forestlands is allowed under controlled conditions when they are located close to towns or tourist farms that have customarily used them for recreational or other purposes.

## **FOREST MANAGEMENT UNITS**

BTGP manages approximately 32,300 hectares in Uruguay of which about 60% is suitable for plantations based on soil types. All properties are owned by the fund Companies. Most of the forest management units (FMU), which include both new plantations and previously planted land at different growth stages, are located in the Eastern part of the country (Cerro Largo, Treinta y Tres, Durazno, Florida, Lavalleja, Maldonado, and Rocha) The areas where the properties are located have a tradition of cattle grazing. Since the 1990's forest production has grown steadily resulting in the properties adjoining cattle farms, forests, and agricultural production which has also expended in recent years. The social environment consists of towns or rural communities with low population.

For every new plantation planned a project is submitted for approval by the national forestry office and environmental bodies according to the country's regulations. The species managed include mainly *Eucalyptus globulus*, *E. grandis*, *E. maidennii*, *E. dunnii*, follow by *Pinus spp* and others. The selection of species is based on forestry and commercial aspects, establishing for each property the best combination according to the site (soils, microclimates). Performance monitoring (growth, health) of different species is permanent and is the basis for adjustments of management plans (e.g. decrease in area planted with *Eucalyptus globulus*).

## **MANAGEMENT AND MONITORING PLANS**

BTGP Uruguay has developed general forestry, environmental and social management and monitoring plans, as well as specific plans and programs for each FMU and its area of influence.

Forestry plans are designed based on field assessments, soil studies and inventories (through which growth and forest dynamics are monitored, by determining growth rates, regeneration and sanitary condition), all of these conjugated with the company's commercial goals. They include agendas and operational plans for planting, silviculture, harvest and post-harvest, as well as provisions for monitoring activities during each stage.



The Maximum Clear Cut Area (CCA) is determined based on a set of criteria that consider the environmental, social and economic factors involved.

The CCA is conceptually a continuous harvest area; therefore, with forests below 500 hectares in size, the maximum harvest area of the forest is equivalent to the CCA. For forests greater than 1,000 hectares in size, the maximum harvest area, according to scale, may be greater than the CCA, depending on the variety of the strata and the greening of the reforestation and sprouts.

Therefore we define a general CCA of 450 hectares and a maximum harvest area by property according to the determination of the Forest Management Units that are integrated into the annual Harvest Plan (December of each year).

Once the areas to be harvested are defined, we analyze the characteristics of the forest and determine the harvest system to use, the equipment needs (including personnel), the infrastructure (roads), and the need to introduce new technological approaches that developed over the past year.

The selection of the harvest system is based on:

- Area to be harvested: If less than 50 hectares, a manual harvest is most common.
- Monthly production volumes: If less than 3,000 solid cubic meters (scm) per month, a manual harvest is most common.
- Average tree volume: If the average tree volume is less than 0.16 scm, a mechanized or semi-manual harvest is most common.
- Product type: If the pulpwood logs are more than 2.4 meter in length or if the product is sawtimber, a mechanized harvest is selected.
- Heterogeneity of the volume per tree: The greater the heterogeneity of the tree volumes, a semi-mechanized or a manual harvest is selected. However, if a pre-commercial manual thinning of the small diameter trees can be made, then a mechanized harvest is performed.
- Morphology of the stand: If the stand has a high occurrence of forked, twisted, broken, or excessively branched trees, a manual harvest is most common.

Environmental plans, based on field research and impact assessments, seek to restore natural systems affected by previous practices (agriculture, livestock production, forestry, or other), protect natural resources and values in the areas of influence, and prevent or mitigate impacts from forestry operations.

Through the Fauna and Flora Programs we acquire the knowledge about them in the areas of influence of forest land managed by BTGP, identifying the possible presence of rare, threatened or endangered species. This makes it possible to analyze their behavior in relation to forestry, in order to achieve the conservation of biodiversity, the effective protection of species with particular interest to develop conservation plans and control of pest and diseases.

The program experts determine the annual monitoring and evaluation activities with a defined number of properties (average 4) to visit on which sightings of species (fauna and flora) are made in order to develop a list which includes the occurrence, abundance (in



Uruguay), worldwide situation (IUCN,CITES) and abundance on the farm. Lastly, some conclusions and recommendations are made.

Social plans, developed on the basis of national and local surveys, seek to achieve a good relationship with the local communities by implementing information, training and cooperation programs and other outreach activities. Housing, health and safety conditions of forestry workers are also considered in these plans.

## MONITORING RESULTS

1. In the period 2011 - 2012 were harvested (clear cuts and thinning): for cellulose 142,583 scm (solid cubic meters), 34,870 scm for quality wood and 21,600 scm for firewood.
2. In 2012 according to the annual plan, a periodic inventory was conducted on 10% of the total area in order to determine growth rates, coppice areas, and sanitary conditions. The growth rate (MAI total) average values for the planted species were:

<i>Eucalyptus globulus ssp globulus:</i>	14.65 scm/ha/year
<i>Eucalyptus globulus ssp maidenii:</i>	17.60 scm/ha/year
<i>Eucalyptus grandis:</i>	20.80 scm/ha/year

The performance of the coppice regeneration in the harvest areas has been variable resulting in the need to reforest between 60 to 65% of the clearcut areas.

3. The local communities identified the positive and negative environmental and social impacts as:

### Positive Impacts:

- Jobs for the local people.
- Revitalization of commerce, especially culinary bouquets, warehouses, hotels, gas stations and mechanics. Important real estate business training about the forestry sector in the area.
- Support in fire prevention (the fire local resources are limited).
- Increase in the forestry workers health prevention that enables early diagnosis of problems.

### Negative Impacts:

- Increase of the heavy traffic (especially during harvest operations). Prior to harvest, warning posters are placed at key locations, and the transport companies are warned to take precautions (speed, driving care), especially when going through communities and school zones.
- Feeling of insecurity with the presence of people from elsewhere (planting and harvesting contractors). Given this impact, contractors are instructed to send updated list to Sectional or police station area.
- Fire risk: Training is provided and we cooperate with the local Fire Police Department. In addition a Prevention Plan is developed through the Consortium that includes human and material resources that allow for efficient operations.
- Competition for land and lease price increase. To mitigate this impact cattle grazing is allowed once the trees reach a certain size.
- Competition for water resources. Because of this frequent "myth", information is given to the local communities about this issue.
- Proliferation of foxes and wild boars. Wildlife monitoring is conducted to address this concern, and the local communities are informed about how to control the population of these species.

4. The following monitoring has been made with reference to soils:
  - ✓ Erosion risk due to action of controlled burning, According to the results from a project with the Republic University, this activity was eliminated from the



Company's standard practices except in rare circumstances duly authorized by BTGP's Management.

- ✓ Fertilization adjustment in Eucalyptus plantations. There are already results in terms of adjusted levels of fertilizer in various elements (nitrogen, boron, phosphorus).
- ✓ Site Management: The overall objective is to develop a methodology to identify homogeneous treatment zones for installation of Eucalyptus plantations on soils of the eastern region of the country.
- ✓ Soil nutrition study: Fertilization and re- fertilization trials. Currently in the process of installing the plots. An evaluation of plantations from 0 to 8 years with different fertilization treatments will be made.
- ✓ Soil nutritional status by foliar analysis: The nutrients evaluated were nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg) and boron (B). Existing results of the data are being analyzed by BTGP Management.
- ✓ Characterization - Soil Fertility: According to the regional data already collected, on recently established plantations or reforestations the information is currently being complemented with visits of experts to determine fertility.

5. There has been water monitoring of permanent watercourses on tracts with operations, obtaining the following data:

- Biologic Oxygen Demand (BOD): within accepted parameters
- Nitrates: adequate levels
- Dissolved metals: non-toxic (by Daphnia magna test)
- Glyphosate: traces (no parameters for comparison)
- Phosphorus: values above the maximum

6. Compliance of laws and safety at work are being monitored through a process of continuous control during all operations, having seen an increasing compliance with few failures.

7. Regarding the monitoring of flora and fauna, the findings are the following:

- The presence of endemic plant species, some of which (*Cladonia palmicola*, for example) are indicative of complex and relictual ecosystems.
- Uncommon or rare bird species such as Gargantillo (*Sporophila caerulescens*) were found in areas adjoining plantations in open environment with patches of native forest, Azulito (*Cyanoloxia glaucocaerulea*) recorded feeding several times in buffer areas and nearby plantations near the edge of them; and Chinchero or Trepador Grande (*Drymornis bridgesii*), observed in open areas near homes.
- Two bird species of great scientific interest. One with "Rare" status: Yellow Cardinal (*Gubernatrix cristata*) is one of the most endangered species of Uruguay. Also found and documented a specimen of Black-crowned Burlisto (*Myiarchus tuberculifer*) that had not been registered before in the country.
- According to the findings and expert opinions, starting in 2013 working criteria will be established to monitor the selection of representative farms for biodiversity conservation
- Regarding safeguards for rare, threatened and endangered species, the fund companies adopted the following measures: Identification in the conservation area mapping.
  - ✓ Control of exotic wildlife.
  - ✓ Prohibition of hunting.



- ✓ Placing posters.
  - ✓ Diffusion talks.
  - ✓ Conservation, isolation and ecosystem monitoring (i.e: Palm trees of Foco Forestal). In this case have been established actions with the NGO "butiaceros".
  - ✓ Specifics conservation plan have been elaborated for:
    - Picumnus nebulosus (Carpintero enano)
    - Feline species
    - Xanthopsar flavus and Heteroxolmis dominicana (Dragón and Viudita blanca grande)
    - Palm trees
    - Furnariids
    - For the reserve area of Santa Raquel, although, as it was not considered HVCA, and does not require a Conservation Plan, have begun specific conservation plans like Gubernatrix cristata (Cardinal amarillo).
  - ✓ According to the findings and expert opinion in 2014 shall be established monitoring criteria based on the categorization of representative forest land for the conservation of the biodiversity.
8. Cost aspects of management and economic efficiency are measured by comparing quarterly budgets against actual costs and assess the rate of return. The results have been declared confidential by the Company and reserve the right not to make them public.

#### **FSC CERTIFICATION**

Following the group's general policy, during 2007 BTGP Uruguay companies initiated a certification process for Forest Management and Chain of Custody, in order to achieve the management and international performance standards defined by the Forest Stewardship Council (FSC).

Compliance with certification standards is sought for all TAURION S.A., PONTE TRESA S.A. and MONTE FRESNOS S.A. properties.

***The management plan for each property is available at the BTGP office in Uruguay.  
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