

Legado das Águas

Reserva Votorantim

2015 Report

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Water for 1.5 Million People in São Paulo

LEGADO DAS ÁGUAS REPRESENTS A DYNAMIC ECOLOGICAL SYSTEM WHERE ECOSYSTEM SERVICES ARE PROTECTED AND CAN EVEN CONTRIBUTE TO SUPPLY THE SÃO PAULO METROPOLITAN REGION

In 2014, the State of São Paulo experienced an unprecedented water shortage crisis. In July of that year, the volume of water in the Cantareira Reservoir System, which supplied 8.8 million people in the São Paulo Metropolitan Region, was depleted. The exhaustion of the reservoir, coupled with an extended drought, left thousands of homes with dry taps in the State of São Paulo. Ever since, the government has sought to use solutions to avoid having the population undergo yet another period of rationing water, which is an indispensable resource for life. One of them is precisely associated with Legado das Águas.

Once the required work is completed, as of 2018, through the project called São Lourenço, Sabesp will abstract 4.7 m³ of water per second in the França Reservoir, formed by the Juquiá River, which crosses the Reserve. Once completed, the work will benefit 1.5 million households in the cities of Barueri, Carapicuíba, Cotia, Itapevi, Jandira, Santana de Parnaíba and Vargem Grande Paulista, which are currently supplied by the Cantareira System. The multiple uses for water are a right, based on the balance between direct use and maintenance of ecosystem services, which ensure availability and purity of the water, regulation of climate, and air quality.

Legado das Águas: Pride for Votorantim

When it all started, back in 2011, we knew it wouldn't be easy. We were certain that we would face challenges and hard work ahead, along with the conviction that we were on the right path to initiate a unique project, the only of its kind in Brazil, which could give a new dimension to sustainable and economic environmental protection. Innovation and boldness have always been very strong at Votorantim, and has been present in the company's DNA since its foundation in 1918.

The history we developed at Legado das Águas could not be different. To this end, after four years of much dedication and investments, allocating financial resources and the effort of numerous persons, the results we obtained are a reason of pride. This feeling became even stronger when, in December 2015, when the memorandum of understanding signed in 2012 was revalidated with the São Paulo State Environmental Department for the creation of the Reserva Votorantim — Legado das Águas (Votorantim Reserve – Water Legacy). The memorandum provides on our volunteer initiatives to maintain the area through a management plan, establishing a multidisciplinary management council, in addition to scientific and academic studies, environmental education actions, ecotourism, preservation of endangered species, and social and economic development of the region.

Our satisfaction became even greater by the fact that the memorandum was revalidated in Paris, in an event held by the São Paulo State Government during the 21st Climate Change Conference (COP 21), the most important global meeting on this topic. The new protocol has now a 10-year term with automatic revalidation.

This confidence is only possible because the activities planned back in 2012 have been put into practice. Among them are a strategic management plan, scientific research on the flora, which culminated in the publication of the first guide of the species of the Atlantic Rainforest, and the genetic mapping of 50 species in the region. Wildlife is being addressed by studies such as mapping of carnivores, and a study of the Muriqui, the woolly spider monkey. Initial tests of the region's tourist potential, a strong integration with governments of cities in the territory of the Reserve, with the adoption of public management improvement programs, in addition to several projects together with the community (learn more about these programs, and other initiatives, on the following pages), are also a part of the purpose of working in the territory in an integrated and strategic manner. In these four years, more than 45 researchers, including classes of graduate, master's, and doctorate courses conducted work at Legado das Águas.



photograph: Paulo Fridman

GAZING INTO THE FUTURE

Now, more important than looking back on what we have done, we must look ahead and prove that a standing forest can generate the resources necessary for its maintenance. In this sense, our goals are bold. To this end, we need to advance the knowledge developed through alliances with the scientific community. All studies conducted will be furthered and research on new aspects will be initiated. We will also proceed with studies in the area of biotechnology; a front we consider to be very promising, in addition to a project to investigate the importance of water, in volume and quality, within a large natural system in the catchment area of the Juquiá River, from its spring, passing through the França Reservoir, up to its mouth in Ribeira do Iguape. We have improved our governance, as well as our sustainability practices, creating in 2015 the company Reservas Votorantim Ltda, which focuses on management of environmental assets, and the object of its first work is Legado das Águas. Its operations will include the seedling nursery, whose production

will be based on selected mother plants from Legado das Águas, following the strictest technical criteria. This will be the first experience involving local communities and that intends to contribute with elimination of illegal harvesting of certain plant species, such as the heart-of-palm and orchids, through local engagement of the population and creation of alternatives for the communities.

All these achievements and everything else to come leads us to believe that the greatest merit for Legado das Águas, in Vale do Ribeira — considered the “heart of the Atlantic Rainforest” — is to have gathered different people with different thoughts working together in a singular cause: protection of a special and unique area, open for research and to the community at large. This work brought together the best from each partner and each field of expertise, enabling multidisciplinary work that has increasingly contributed to the results and to our achievements. And that's what we intend to do for the coming years, always improving. We hope that our experience with Legado das Águas will spawn similar initiatives. And Brazil will benefit from all this.

David Canassa, João Schmidt and Luiz Marcelo Pinheiro Fins
Directors of Reservas Votorantim

COURSES, PROJECTS AND ACTIONS CONDUCTED

KNOWLEDGE AND LEARNING LEGACY

THE HUGE ATLANTIC FOREST
DIMENSION OF LEGADO DAS ÁGUAS
HAS BEEN THE BACKDROP FOR
REPORTS, RESEARCH, COURSES,
AND FIELD CLASSES

A natural heritage as rich and unique as Reserva Votorantim should not and cannot be restricted only to researchers and company professionals responsible for its management and maintenance. On the contrary. The reserve becomes even more relevant when it is turned into a place suitable for **practical classes** or the focus of reports. In both cases, the sense of purpose of Legado das Águas is communicated to other audiences. This is one of its great vocations: to leave behind a legacy of knowledge and learning.



RELEVANT FACTS IN 2014 AND 2015

MAY the extremely rare picture of the albino tapir, taken in March 2014, provided great visibility and international recognition to Legado das Águas. It is the result of an important strategy to provide photographic documentation and communication, conducted by **Luciano Candisani** since 2014. In addition to being a biologist, Candisani is considered one of the most renowned nature photographers in the world. For 24 months, and several expeditions to the Reserve, Candisani put together a vast visual inventory covering hundreds of species of the local wildlife and flora. Images as enchanting as they are informative, and that have been successfully used to enhance stories about Legado das Águas and the Atlantic Rainforest as a whole.



DEC

publication of the book *A Sustentabilidade de uma Reserva* (in loose translation, *The Sustainability of a Reserve*).

DEC

administration of the course “Como Trabalhar Empresa e Meio Ambiente” (in loose translation, How to Manage Company and the Environment), intended for Votorantim employees and organized by Universidade Corporativa da Organização (Votorantim’s Academy of Excellence). Subjects covered: sustainability associated with business strategies, involving licensing of operations, legal aspects related to the environment, and best management practices.

2014

THE RESERVE

was highlighted in several printed and electronic communication media.

MAR reports of the **albino tapir**, photographed for the first time and published on the magazine *National Geographic Brasil*.

MAR - APR - SEP Photographer Luciano Candisani teaches a course on "Forest Photography".

MAY/26 article published on the *Journal Diário de Comércio e Indústria (DCI)*, highlighting the Reserve's business plan and the process to lease land for environmental compensation.



MAY the Reserve is mentioned in an article published by magazine *Época Negócios* as an example of an innovative social and environmental initiative that generates revenue.

MAY/31 report aired with highlights on the weekly variety program **Fantástico**, on Globo TV network.

3 publications were launched containing images and data obtained at Legado das Águas



Throughout 2015: several corporate training courses, including a course on social technology and another on sustainability, geared toward employees and company managers interested in the technology and tools for social and environmental management at Votorantim.

JUN/15-18 second edition of "How to Manage Company and the Environment". It was the first time that Votorantim Academy, created in 2006, offered training courses to external audiences.

AUG SEP opening of the exhibit "Floresta Viva – Um Legado para Humanidade", ("Live Forest – A Legacy for Humanity", with 30 photographs by Luciano Candisani".



SEP launched, during the Brazilian Congress on Conservation Units (CBUC), the *Illustrated Guide for the Identification of Plants of the Atlantic Rainforest – Legado das Águas (Reserva Votorantim)*. Organized by Thiago B. Flores, Gabriel D. Colletta, Vinícius C. Souza, Natália M. Ivanauskas, Jorge Y. Tamashiro and Ricardo R. Rodrigues, the publication identifies 162 plant species from 50 different families, collected in the region of Vale do Ribeira, SP.



NOV/16 visit by Patricia Iglecias, São Paulo State Environment Secretary (see *interview on page 30*), and Luis Fernando Rocha, Dir. of Fundação Florestal, together with the Legal Director of Votorantim S.A., Luiz Marcelo.

NOV/30 launch of **Guide to Brazilian Birds: Southeastern Atlantic Rainforest**, conceived by the Wildlife Conservation Society and published by Editora Horizonte in partnership with Legado das Águas, Fibria, and Fundação Grupo O Boticário.

DEC renewal of the memorandum with the São Paulo State Government during the COP Climate Conference in Paris.

Learn in Order to Conserve and Generate Wealth

LEARN ABOUT WHAT VOTORANTIM ACHIEVED
IN THE 2014/2015 BIENNIAL AND WHAT IT
STILL INTENDS TO DO IN THE LARGEST PRIVATE
ATLANTIC RAINFOREST RESERVE IN BRAZIL

It started in the beginning of the 50s. Antônio Ermírio de Moraes decided to purchase areas in order to protect the water that would generate electricity for Companhia Brasileira de Alumínio (CBA). Seven hydroelectric plants were being designed to generate the energy for the future industry, planned for the region 50 km away from where the city of Alumínio is currently located. Conserving springs and rivers in the Vale do Ribeira region represented a strategic element.

THE MAIN OBJECTIVES OF LEGADO DAS ÁGUAS

- To protect the landscape and biodiversity.
- To generate revenue to finance its protection.
- To develop business centers.
- To contribute to the development of local communities and promote the appreciation of Legado das Águas by these communities.

BRL **7** million
Amount invested
by Votorantim at
Legado das Águas
in 2015.

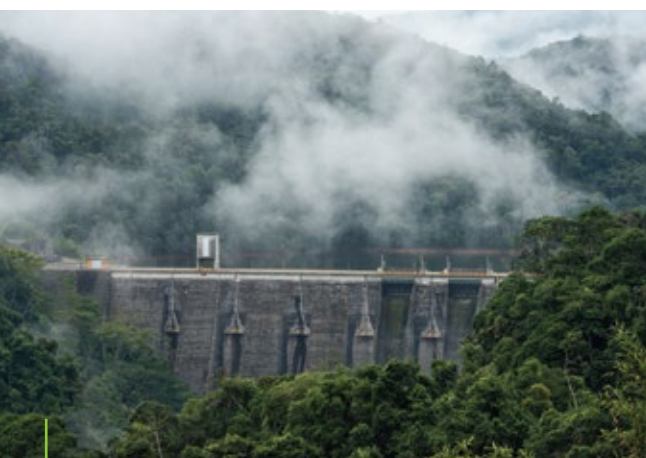
Over the years, more area was added by Votorantim and today Legado das Águas, located in the Vale do Ribeira region, in the southern portion of the state of São Paulo, has approximately 31,000 ha of continuous land, with certain areas located in the municipalities of Juquiá, Miracatu, and Tapiraí, which makes it the largest privately-owned protected area of the Atlantic Rainforest in Brazil. These 31,000 ha correspond to 1.5% of all the remaining Atlantic Rainforest in the state of São Paulo. This news became even more relevant given the fact that the Reserve is not an isolated area, since it is located among several public state parks, such

The initial objective conceived by Antonio Ermírio de Moraes, who had the foresight to bar deforestation in the areas surrounding the springs that formed the bodies of water that ran through the Reserve, was obviously fulfilled. After more than five decades, the Reserve became a Brazilian environmental heritage. And since 2012, when Votorantim signed a Memorandum of Understanding with the São Paulo State Government, this exuberant natural scenario has represented a rare opportunity for scientists to study and better understand the relations occurring in the region of Atlantic Rainforest with high levels of preservation.

“It is possible to grow and still preserve the Planet. There is no contradiction between growth and the environment.”

Antonio Ermírio de Moraes (1928-2014)

as Carlos Botelho, Serra do Mar, and Jurupará, nearest to the Reserve. In the vicinity of the Reserve, the Environmental Protection Areas (APAs, in the Brazilian acronym) of Serra do Mar, Ituparanga, and Cananéia-Iguapé-Peruíbe, can be found. This way, the Reserve, in addition to representing a natural laboratory for several lines of research, acts as a huge ecological corridor interconnecting various Conservation Units.



With this, the activities conducted at Legado das Águas, which will be briefly described in the next pages, are solid and objective examples of how a partnership between private sector, government, and civil society can contribute to local development, to scientific research, and to conservation of the environment. The idea behind this experience — which so far has yielded excellent results — is to open frontiers that reveal possible ways of reconciling the use of a renewable natural capital with human well-being. And, thereby, inspire other similar initiatives. In this sense, the activities conducted there reinforce the company's concern in three fronts: the environment, business, and social aspects.

RESOURCES AND PLANNING

For this to work, there is no magic. It requires resources and much work. Hence, the need for a well-prepared plan, teams involved, and definition

of priorities. Among other initiatives, it was necessary to develop an appropriate Strategic Management Plan, considering appropriate and sustainable business initiatives, involving municipalities and the communities in the territory of the Reserve, or in its adjacent areas, and to seek professionals recognized for their competencies who are capable of turning Legado das Águas into a center of reference in conservation of biodiversity. The environmental relevance of the Reserve is undeniable, since there are studies that show that 75% of its area is in excellent state of conservation and the remaining 25% is in an average stage of regeneration, which is also a significant fact. This situation allows for a connection with the various conservation units in the region, such as state parks and environmental protection areas, promoting the circulation of several animal species. The capture of the albino tapir in photographs by Luciano Candisani in the Reserve was an extremely rare event worldwide. This first recorded documentation was so relevant that it became the object of an article published in the magazine *National Geographic Brasil*, in March 2015.

MEMORANDUM OF UNDERSTANDING

In 2012, a new phase for Legado das Águas was initiated. Through a partnership with the São Paulo State Government, Votorantim signed a memorandum to instate the area as a Private Reserve, which aligns environmental protection with the possibility of using natural resources in a sustainable manner, seeking to generate income and shared value, including the development of local communities. Additionally, as a Private Reserve, Legado das Águas can contribute to generating income and local social and economic development, and further improve the quality of life of residents in the region. With low population density and little economic growth, the three municipalities in the region where the Reserve is located — Juquiá, Miracatu and Tapiraí — have a Human Development Index (HDI) below the national average.

Therefore, keep an eye out. Every time, on the following pages, that the seal on the side appears, it means that that specific project is part of the Memorandum of Understanding, renewed at the end of 2015.



More than 50 years protecting the Atlantic Rainforest

1947 Antonio Ermírio de Moraes had a dream that the company could build its own **hydroelectric plants** to power its industrial production. In those days, 245 property deeds were acquired for the construction of several hydropower plants. It was also defined that the headwaters of the Juquiá-Guaçu River, in the southern region of the state of São Paulo, would be protected.

1958 The França hydroelectric plant was inaugurated. It was the first of the six power plants to be installed in the Juquiá-Guaçu River by the 80s. The seventh hydroelectric plant was built on the Assungul River, a tributary of the Juquiá River.

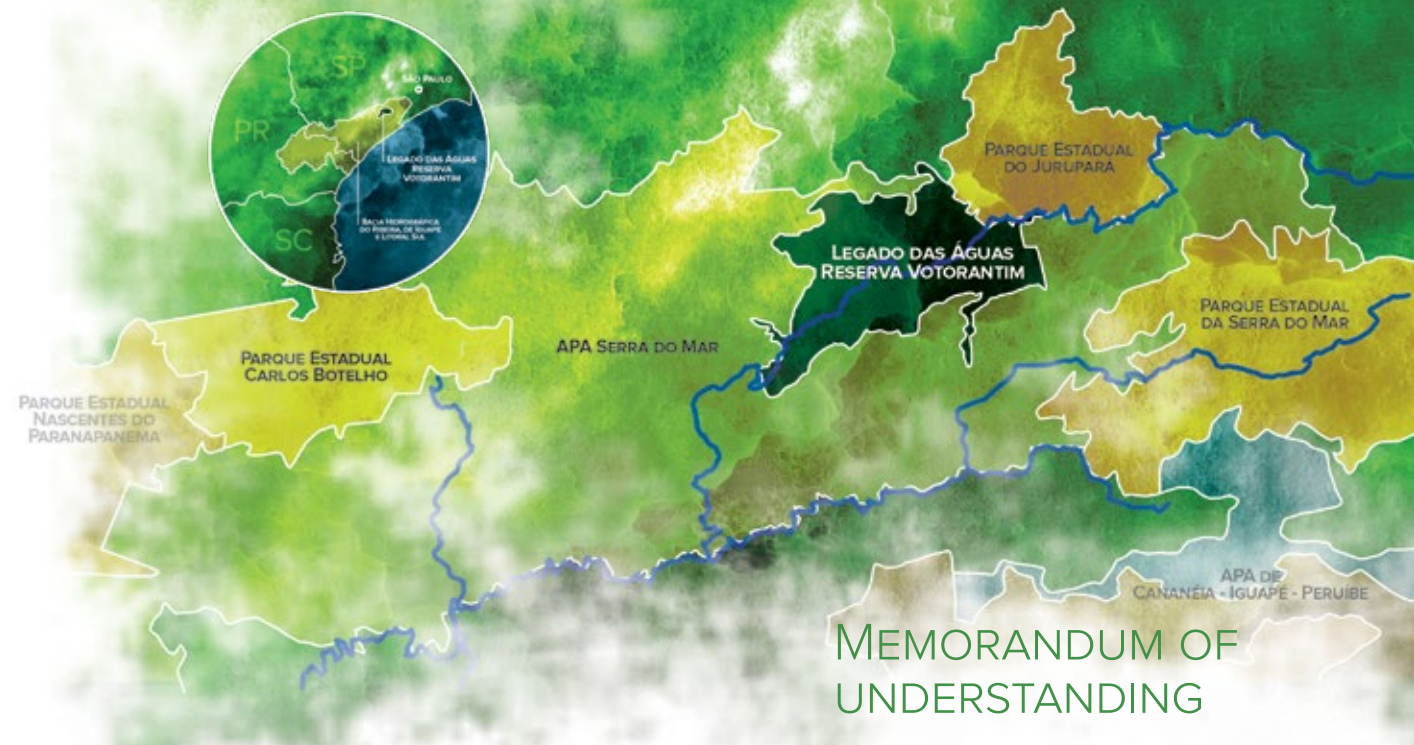
1964 The Fumaça hydropower plant, the second plant built by Votorantim, began operating.

Several areas of the Vale do Ribeira region were either expropriated by the government, or had their use limited for the purpose of environmental conservation.

1977 Serra do Mar State Park was created near the Reserve.

1982 Carlos Botelho State Park was created.

1984 An Environmental Protection Area (APA) was created in Serra do Mar, encompassing territories that had their use partially restricted. The Reserva Votorantim, currently called Legado das Águas, is fully located within the limits of this APA.



INFINITE FRONTS FOR RESEARCH

According to the Memorandum of Understanding, signed with the São Paulo State Government, Votorantim has made available the necessary infrastructure for several researchers to conduct important environmental conservation projects. Examples of such projects are the Conservation of Neotropical Carnivores, which studies leopards and pumas, and the study of the murequi (wooly spider monkey) considered the largest nonhuman primate in the Americas, an endemic species of the Atlantic Rainforest and at risk of extinction. There are also relevant studies of the flora, such as the viability of the Seedling Nursery, and the studies about orchids. Additionally, important advancements were made in the genetic mapping of biodiversity conducted at Legado das Águas.

FINANCIAL BALANCE

All this has a significant cost. In 2015 alone, for example, Votorantim invested BRL 7 million in the Reserve. For the coming years, in addition to maintaining the research and promoting environmental balance, the idea is to have Legado das Águas generate revenue. After all, in a way, and within certain parameters, the Reserve is also a business for Votorantim. It doesn't need to be profitable, but it is important for it to reach a financial balance. In this sense, several ideas are being implemented. One of these ideas is an activity that is still little exploited in Brazil: Leasing of areas for environmental compensation. The initial idea is to offer 1,000 ha of area from Legado das Águas to companies that intend to offset the impact of their activities upon the environment. This is still a developing market in Brazil, but there are several opportunities that could contribute to the expansion of the conservation models in the country. "Even with seven hydroelectric plants operating in the area, Votorantim already complies with its

THE IMPORTANCE OF A STRATEGIC PLAN

Since 2014, the Strategic Management Plan of Legado das Águas has been developed and perfected by an internal team at Votorantim that operates in the Reserve, through the company's sustainability department, with support from Conservation International (CI), a global nongovernmental organization with emphasis on actions and projects for the environmental conservation and protection, operating in over 30 countries. Among other topics, the plan covers aspects associated with governance, zoning, conservation, use of natural resources, analysis of initiatives and projects. The Strategic Management Plan involves assumptions and guidelines for management of the Reserve, in addition to regulatory issues associated with land and legal framework. The plan institutionalizes how the area works and materializes the future vision for Legado das Águas, aiming to strengthen the conservation capacity for the Reserve and also defines the long-term conservation approach in the territory.

environmental compensation. For this reason, the company decided to generate revenue with the surplus. We want to be suppliers of legal reserve. We have the potential for 24,000 ha for this type of lease," explains David Canassa, General Manager for Sustainability at Votorantim. Another important front is about raising awareness of the importance of environmental conservation, and therefore, ensure that nature will no longer suffer aggression from ill-intended "outsiders", such as palm-of-heart harvesters, poachers, illegal occupants, and squatters. Additionally, Votorantim is concerned about offering professional training in order to integrate people with this ecosystem. "In the past two years, we've made a considerable effort to gather data, both in terms of biology and in the social and economic

"In 2016, our challenge is to implement more concrete actions, in all fronts, placing biodiversity at the heart of development of the communities. The world needs good examples, such as Legado das Águas."
Fábio Scarano, of the Brazilian Sustainable Development Foundation and President of the Advisory Board of Legado das Águas

area. Interaction with the academic community also advanced significantly. Reserva Votorantim can be an example of how it is possible to reconcile the lives of people with corporate businesses, and serve as a reference for other companies and organizations", explains Fábio Scarano, of the Brazilian Sustainable Development Foundation and President of the Advisory Board of Legado das Águas. That's what everybody wants: conserve, research, learn, generate wealth, and prosper.

TECHNICAL-SCIENTIFIC MEETING

When Legado das Águas was still only a project, Frineia Rezende, current Sustainability Manager for Reserva Votorantim, thought that it would be relevant for those involved in the creation of the Reserve to have an opportunity to align their specific projects. Thus, still in 2011, the first meeting was held between the various departments at Votorantim and consulting companies, such as Gestão Origami, with this purpose. This "meeting" gained an even greater proportion and gave rise to the Technical-Scientific Meeting, where every six months the partners present the results of their work and their expectations for the subsequent six months. Until December 2015, five Meetings had been held, generating synergy among the activities inherent to management of the Reserve and to research, social projects, and economic development projects.

COUNSELORS OF THE LEGADO

In order to help with the strategic objectives of the Reserve, the Advisory Board of Legado das Águas was created in 2015, formed by 15 members, representing the State Government, communities, universities, NGOs, media and consulting companies. This allows the Reserve to have shared management between the private sector, state and city governments, and representatives of civil society. Meetings are held every six months, giving its members an opportunity to monitor all activities and programs. The Board influences and contributes in several operating fronts, such as local development, handling plan, scientific research, and new inclusive businesses. "I have taken part in this Board from the beginning. The advances of teams in academic survey, analysis of its main assets, and development of the surrounding areas are undeniable. We must seek financial sustainability and initiatives that provide economic attractiveness. It is a long journey; however the initiative is on the right track. Now, the model needs to be consolidated. I believe that in two years we will become a global reference," says Aerton Paiva, from Gestão Origami, and vice president of the Legado das Águas Board.

Creation of the Jurupará State Park, which, at the time, received a donation of 2,350 hectares from Votorantim.

Votorantim's Sustainability department assumes management of the area and starts one of the most innovative projects in the field of conservation.

The first scientific studies on the Reserve are initiated. Through a partnership with the São Paulo State Government, Votorantim signed a memorandum to establish the area as a Private Reserve, which combines environmental protection with the possibility of using natural resources sustainably and the development of communities. Thus, Legado das Águas – Reserva Votorantim was officially created.

Creation of the brand Legado das Águas and communication to society. With that, the area began to be officially called Legado das Águas – Reserva Votorantim.

Various initiatives were designed to put into practice the strategic plan and initiate some actions highlighted in this magazine.

A new company, Reservas Votorantim, was created. The company was born from the perspective of environmental asset management, which, among other things, covers the company's initiatives in relation to conservation of forest areas.



An Nature Sanctuary

LOCATED IN THE SOUTHERN PORTION OF THE STATE OF SÃO PAULO, A TWO-HOUR DRIVE FROM THE STATE CAPITAL, LEGADO DAS ÁGUAS – RESERVA VOTORANTIM OFFERS THE IDEAL CONDITIONS TO CONDUCT RESEARCH ON NATIVE VEGETATION

It's amazing. Few people know that less than two hours away from Brazil's largest city lies a native area mostly covered by forest in advanced state of conservation, and to a certain degree, virtually untouched. Acquired by Votorantim in the 1950s, the Reserve became the largest private protected area of the Atlantic Rainforest in Brazil.

The Atlantic Rainforest is one of Earth's biomes with largest biodiversity, since it holds more than 20,000 plant species, 8,000 of which are endemic. In other words, they are species that exist only in these locations. Today, the Atlantic Rainforest in Brazil, which holds seven of the largest river basins in the country, is reduced to 7.5% of its original area. The remaining area was deforested. Originally, the Atlantic Rainforest

ADVANCED STAGE OF ENVIRONMENTAL CONSERVATION

Nevertheless, its relevance cannot be measured only through its extension of land. The Reserve is a privileged location: 75% of its area is considered to be in advanced or average stage of environmental conservation, which is normally surprising to researchers studying the wildlife and flora of the Atlantic Rainforest in other places in Brazil.

This favorable scenario has allowed, since 2012, several scientists to conduct important studies at Legado das Águas, which turns this natural sanctuary into a true outdoor laboratory. "The Reserve has large potential for experiments and can be exploited in innovative manners. We are building a model that can be replicated in other locations, both in Brazil and abroad.



extended throughout 17 Brazilian states, reaching countries such as Argentina and Paraguay.

Legado das Águas — Reserva Votorantim stretches into three municipalities in the Vale do Ribeira region, Juquiá, Miracatu, and Tapiraí, in the southern portion of the state of São Paulo, totaling 31,000 ha of land, corresponding to 1.5% of the entire area the Atlantic Rainforest had in a distant the past, in the state of São Paulo. The territory where the Reserve is currently located is 10 times larger than the Tijuca Forest, in Rio de Janeiro, and four times larger than the Cantareira State Park, which extends through the municipalities of São Paulo, Guarulhos, Mairiporã, and Caieiras.

I expect that Legado das Águas will be, within five years, a benchmark in terms of sustainable practices and of solid economic results," says Beto Mesquita, PhD in environmental sciences and Director of Atlantic Rainforest at Conservation International (CI), one of the most renowned environmental NGOs, which operates in over 30 countries. One of its main collaborations was in defining seven management zones within the Reserve: Recovery Zone, Sustainable Use Zone, and Integral Protection Zone, among others.

See below three important projects associated with the flora within the Reserve, very rich and diversified, which corroborates the high level of conservation of local flora.

RECOVERY OF ORCHIDS



Walking through the forest, a visitor can come across several species of orchids, of all types and sizes. Some measure only a few centimeters. Others can be measured in meters. This variety and diversity of samples, and the possibility to study these plants in their natural environment, attracted to the Reserve, Luciano Ramos Zandoná, Biologist and Director of the Guarulhos Orchid Nursery.

Since August 2015, he has covered the trails within Legado das Águas in search of specimens of the Orchidaceae family aiming to better learn about and understand their conservation, in addition to helping develop proposals for the use of orchids in terms of education and their handling within the Reserve.

PHOTOGRAPH STOCK

Researchers of the team gathered important information about orchids, mapped species and developed a detailed photographic documentation. Additionally, certain species recovered in 2015 were represented in a herbarium. A program to recover orchids was established using plants found in fallen branches and trees. These orchids, if left on the forest floor, would perish. An important part of this project is the identification and listing of species found, some of which are very rare.

Specimens recovered undergo phytosanitary treatment and, are subsequently incorporated to collections of the São Paulo Botanical Institute, and the Cantareira State Park. Another important procedure is to herborize part of the material collected. In other words, certain samples are collected, pressed, dried, identified and prepared to become a part of the herbarium.

By the end of 2015,

86

species of orchids
had been identified at
Legado das Águas



photograph: Luciano Zandoná

EFFORTS FOR THE RECOVERY OF THE FOREST



Headed by André Nave, Bioflora, a company with headquarters in the city of Piracicaba, SP, and created in 1998 to help in the development of forest recovery in Brazil, is also conducting important work at Legado das Águas. Its main objectives are:

- **amass knowledge on phenology (study of the relations between biological processes or cycles, and climate) of the trees at Legado das Águas;**
- **consolidate methodology to collect fruit and seeds;**
- **mark mother plants;**
- **monitor mother plants already marked;**
- **produce seedlings.**

Work at Bioflora began in 2015 with the production of approximately 15,200 seedlings of 41 species, mainly of tree specimens. As shown below, a nursery was built, under guidance of André Nave, with seedlings that started to sprout in the beginning of 2016.

Mother plants are being marked to carry out the phenological monitoring and collection of seeds and cuttings. Between October 2014 and the end of 2015, through over 30 field outings covering more than 50 km along roads and reservoirs of the Reserve, 13 campaigns were carried out to collect and mark mother plants. A total of 338 mother plants of over 100 species were also recorded. Additionally, fruit, seeds, seedlings and cuttings of 77 different mother plants were collected.

The more than 13 kilos of fruit collected yielded approximately 40,000 seeds which, after processing, were used in sowing processes in the area of Bioflora.

PROFESSIONAL TRAINING

Training the people involved in this work is also important. So, in October 2015, a total of 14 people, including employees of Legado das Águas, residents of the communities of Vila Verde, Ribeirão das Antas and Vila da Barra (workers' village of Votorantim Energia), received training on collection and production of seeds.

The next steps have already been defined. Among them, we highlight the actions of sales planning, restoration projects, and forestry of native species and economic exploitation projects.

THE SOROCABA BOTANICAL GARDEN RECEIVES PLANT SAMPLES

In March 2015, the **Irmãos Villas-Bôas Botanical Garden**, in Sorocaba, SP, received several plant species native to the Atlantic Rainforest, collected at Legado das Águas during the course on Field Taxonomy, conducted, in 2012, by PhD Prof. Ricardo Rodrigues. With this, they began to form the collection of the municipal herbarium. The donation of 700 specimens is the result of a memorandum of understanding of technical-scientific cooperation. The samples will serve as a record and reference on the vegetation and flora of the region.



photo: Sorocaba Botanical Garden

ORNAMENTAL PLANT NURSERY? NOW WE HAVE ONE!



It seems incredible that, until now, the Atlantic Rainforest, one of the most important biomes in Brazil and home to numerous exuberant plant species, did not have a nursery for ornamental plants. It didn't, but it does now. And it is installed in the nursery for seedlings of Legado das Águas and is headed by Ricardo Cardim, of the organization Biodiversidade Nativa. The market potential is big, since, according to data from IBGE, 84% of the Brazilian population lives in cities, but 90% of urban vegetation comes from other countries.

In total, there are 117 "invasive" species in the homes of Brazilians. This is because, in general, the Brazilian population is unaware of the native biodiversity and that most plants sold are exotic, even considering that our country houses approximately 50,000 species of native plants, which represent 20% of all known species in the world. "Our idea is to take plants from Legado das Águas to nearly 20 million people living in the Metropolitan Region of São Paulo. And, with this, show them what the native vegetation of the State was like", explains Ricardo Cardim.

Initial studies for the development of a list of ornamental species to be added upon the implementation of the nursery began in 2014 and continued throughout 2015. In this period, activities were carried out to prospect for potential plants for landscaping in forest and country areas, and field experiments and tests were conducted in the headquarters of the Reserve.

NEXT STEPS

Starting in 2016, opportunities will be analyzed – including possible institutional and commercial partnerships – in addition to the identification of target audiences and effective sales channels. Communication actions through different channels will also be studied. In the future, the idea is to create a new niche market, dominate production technologies, establish quality standards (including the possibility of creating seals or certifications) and popularize species native to the Atlantic Rainforest, bringing these plants to the homes of the urban population. This set of actions can even improve the possibility of income for families in communities at Legado das Águas, which would contribute to retaining this population in rural areas.

The Time for Biotechnology

—
THE STUDIES ARE IN INITIAL STAGES. BUT THEY ARE CERTAINLY VERY PROMISING. THE GENETIC HERITAGE OF LEGADO DAS ÁGUAS IS INVALUABLE

Reserva Votorantim contains huge genetic wealth, even more when we know that the Atlantic Rainforest is one of the biomes with the largest biodiversity on the planet — and Legado das Águas has nearly 75% of its area in excellent state of conservation. It is home to more than 20,000 plant species, 8,000 of which are endemic. Although there is still much to discover, it's not an overstatement that Legado das Águas is home to one of the greatest natural treasures on Earth. This is because, with the use of biotechnology, this immense biological heritage, formed by its living organisms or their byproducts, may be used to manufacture various products of vital importance to humans and with high added value. In this sense, some studies indicate that forests "hide" close to 110 billion dollars in assets that can generate new medicines and cosmetics, among other products.

THE ATLANTIC
RAINFOREST IS
HOME TO:

20,000
plant species

8,000
of which are
endemic

HOW TO TURN ENVIRONMENTAL WEALTH INTO BUSINESS?

Only the researchers can answer this question. So, since 2015, Mauro Rebelo, Professor at the Federal University of Rio de Janeiro (UFRJ) and Scientific Director and Researcher of the start-up Bio Bureau Biotecnologia, partner of Legado das Águas, has conducted some studies aiming to genetically map the biodiversity of the Reserve and find innovative lines of research.

One such line, for example, was the genetic mapping of 57 species of plants native to the Atlantic Rainforest. In this study, which lasted nearly ten months, a special enzyme was used to assist researchers to locate the "fragments" of genes. In total, more than 115 million fragments were analyzed, 6.5 million of which have genetic identity. This result has enabled scientists to obtain a list of genes that can provide relevant commercial opportunities, in addition to being the first genetic bank of a private reserve, with major potential for contribution to the knowledge about these plants.

The project is still in an early stage, but the prospects for biotechnology are very promising. After all, genes and proteins, when studied, can provide significant progress to science.

THE STUDY CONDUCTED IN THE RESERVE:

57 native species were
genetically mapped
by researchers

6.5
MILLION
fragments of
DNA identified

After the Large Felines

CLASSIFIED AS VULNERABLE
ON THE OFFICIAL LIST OF
ENDANGERED BRAZILIAN WILDLIFE,
PUMAS ALSO INHABIT THE RESERVE



The picture on the side, taken by the studio camouflaged in the woods created by photographer Luciano Candisani, shows one of the most important records ever made in the Reserve. When it was taken, in March 2015, it showed researchers what, to some extent, was already suspected. The **tracks** left by a puma (*Puma concolor*), also known locally as suçuarana, left on the clayey soil of the Reserve in the year preceding the photographic record, was the proof that everyone was waiting for. The tracks on the ground made it clear that these animals, rarely seen in natural environment, roamed the 31,000 hectares of Legado das Águas.



“It is very relevant to know that there are leopards at Legado das Águas, because they are symbols of conservation. If there are leopards, the environment is preserved.”

Sandra Cavalcanti, Director of Instituto Pró-Carnívoros

Finding these animals within the limits of the Reserve and better understanding how they relate to the environment and even to the local human population are some of the tasks of Sandra Cavalcanti, PhD in Ecology and Conservation of Wildlife and Director of the Institute for Conservation of Neotropical Carnivores – Pró-Carnívoros, an NGO established to protect the 26 species of carnivores of the Brazilian wildlife and their habitats.

“By protecting leopards, we are also preserving the food chains beneath them. The presence of leopards in a region indicates that the forest is healthy. It is very important to know that there are leopards at Legado das Águas, because they are symbols of environmental conservation,” explains the researcher. If the habitat is good for leopards, it means it will also be for all species below them in the food chain.

One of the great hopes for the coming months is the record of the jaguar (*Panthera onca*), which, like the puma, is also classified as a vulnerable species on the Official List of Endangered Brazilian Wildlife, and is another large feline that inhabits the preserved areas of the Atlantic Rainforest. Photographic records of a jaguar at Legado das Águas is believed to be only a matter of time.

CAMERA TRAPS

At Legado das Águas, the work of Instituto Pró-Carnívoros started in the second half of 2014 with a few filed expeditions to search for the felines. The task was not easy. To try to find the leopards, skittish animals, not fond of contact with human beings, it was necessary to go up and down several hills, enter several trails and identify, in the midst of woods, traces left by them that indicate their presence in the environment, such as feces, remains of carcasses of animals preyed upon and scratches on trees, or tracks.

The task became even more challenging, because it's usually not easy to spot these felines in daylight. Even more complicated was trying to photograph the leopards. One of the solutions was to camouflage photographic studios in the woods to capture images of these rare animals (learn more about this technique in the report on page 26). In 2015, the work continued and had significant advances. Now, what is expected from this group of researchers from Pró-Carnívoros is to get more and more images and information that help keep these species alive. Sharing this information among different researchers is essential. Here, we have an excellent example of how this interaction can yield important and interesting results. The photographic record made by the equipment assembled by photographer Luciano Candisani was only possible with the guidance from the Pró-Carnívoros team about the areas where there was already a record of camera traps for this project.

OBJECTIVES OF THE PROJECT

- Estimate the presence and population density of pumas and jaguars in the area of the Reserve;
- Assess the conservation status of their populations;
- Investigate their habits and how they are distributed in the areas under study.

In the Land of the Muriquis



They are docile, usually live in groups, and unlike other primate species such as human beings, live in a society without a hierarchical structure. Typically, conflicts between them are solved by making compromises and generally end in hugs between the 45 or 50 individuals who form troops; although there may be subgroups of five or six individuals. Apparently, these primates, also known as southern muriquis, love to hug. However, according to the International Union for Conservation Nature (IUCN), muriquis (also called woolly spider monkeys), considered the largest non-human primates in the Americas and endemic species to the Atlantic Rainforest, don't have many reasons to celebrate. They are critically endangered animals. There are two main reasons for this.

GARDENERS OF THE FOREST

Since 2013, Talebi has coordinated the Muriquis Legacy Project, led by the Pro-Muriqui Association, which carries out an important study toward conservation of the species at the Reserve. Among the main research objectives are carrying out a demographic survey and monitoring, and evaluating the conservation stage of the species (*learn more in the table below*).

"On the Reserve, we currently have the largest population of woolly spider monkeys in Brazil. It is a unique opportunity to study these animals."

Mauricio Talebi, Professor, Department of Environmental Sciences at the Federal University of São Paulo

"Up until the 1960s, the two species of muriquis were the victims of many hunters. They also suffered due to the great destruction of their habitat, the Atlantic Rainforest," explains Mauricio Talebi, Professor in the Department of Environmental Sciences at the Federal University of São Paulo, Diadema campus, and PhD in Anthropology and Species Conservation. According to the researcher, it is likely that today, in Brazil, there are nearly 1,200 southern muriquis (*Brachyteles arachnoides*), which exist only in the southern region of Rio de Janeiro, and in São Paulo, and Paraná: about 100 of these animals inhabit Legado das Águas. There are also 1,100 northern muriquis (*Brachyteles hypoxanthus*), which survive in what remains of the Atlantic Rainforest of Rio de Janeiro, Espírito Santo, Minas Gerais, and Bahia.

Important new actions are also planned for the year 2016, such as continued sampling in priority areas, the implementation of a logistics base for overnight stays in the jungle, and inclusive social actions for producers of heart of palm and hunters, as well as professional training courses. Protecting woolly spider monkeys is also very important to the conservation of the Atlantic Rainforest because they are considered "forest gardeners." They "plant" various seeds through the forest. This is because they generally inhabit the upper parts of the forest and feed on fruit. Since they move around a lot in the woods, they spread the seeds of various species in their droppings. Over time, these seeds germinate and give rise to new trees, which, in turn, in the future, will give shelter to new muriquis. So preserving these animals also helps keep the Atlantic Rainforest alive and exuberant.

ENDANGERED SPECIES IN THE AMERICAS, THE WOOLLY SPIDER MONKEY, ENDEMIC TO THE ATLANTIC RAINFOREST, IS THE OBJECT OF AN IMPORTANT STUDY OF THE CONSERVATION OF THE SPECIES

ACCOMPLISHMENTS OF THE 24 MURIQUIS PROJECT

- Diagnostic and spatial prioritization actions.
- Installation of work teams and observation units.
- Opening over 20 km of trails.
- 14 expeditions to spot the animals.
- Location of 27 individuals, males and females.
- Legado das Águas recommended as a muriqui habitat in state, national, and global public policies.
- Legado das Águas recommended as a priority area of the muriqui habitat to the Pro-Primates Commission (state), as well as other committees.

Images of a Living Forest

—
PHOTOGRAPHER LUCIANO CANDISANI DEVELOPS AN INNOVATIVE TECHNIQUE TO PRODUCE A VISUAL NARRATIVE OF THE ATLANTIC RAINFOREST AT LEGADO DAS ÁGUAS



When he began producing images at Legado das Águas in 2012, Luciano Candisani, award-winning photographer from *National Geographic* magazine, saw an opportunity to develop an unprecedented forest documentation program, which would later be called the Forest Legacy Project. “My goal is to produce images capable of evoking the idea of a living, healthy forest, a hallmark of Legado das Águas. Therefore, it is important to photograph the significant species of the forest from a short distance, with wide-angle lenses, in order to place each animal in the context of its environment. The problem is that the wildlife of the forest is largely made up of elusive creatures that rarely show up on camera, except for in unpredictable and fleeting encounters,” says Luciano.

“When I saw the image of that pure white tapir in the camera monitor the next day, I was breathless. It was the first record of albinism in the largest land mammal in Brazil in its natural environment.”

Luciano Candisani, nature photographer

To overcome this difficulty, the photographer developed an innovative technique for his work at Legado das Águas: he designed and installed **camouflaged studios** in the forest, in which the animals trigger their own pictures when passing by infrared sensors. “The system uses my professional cameras and lighting drawn from three or more flash units,” says the photographer. Through this methodology, Candisani photographed numerous rare and difficult-to-spot species such as the **bush dog**, the puma (*photo p. 23*), as well as tayras, ocelots, pacas and even the now famous albino tapir (*see pp. 8 and 9*). This yielded a scientific publication and travelled the world when it was printed on the pages of *National Geographic*. The numerous newspaper articles derived from this unprecedented record contributed to the wide dissemination of Legado das Águas and its purposes.



DISSEMINATING KNOWLEDGE

The Forest Legacy Project becomes even more relevant because all the knowledge acquired there has been shared with other photographers and journalists. This is because, in 2015, Luciano Candisani inaugurated the course “Photography in the Forest” at Legado das Águas, which works in the context of his documentation project at the Reserve. In 2015, there were three editions of the course, in March, April, and September. Through this initiative, Candisani shared his mistakes, successes, and solutions with other professionals and image enthusiasts. Thus, the knowledge gained there may be put into practice in other natural areas of the Atlantic Rainforest.

400
edited photographs of

20
elusive species, raising the total number of vertebrate species in the Reserve's photograph stock to

90



Development of the Region

IN 2015, THE SOCIAL PROJECTS
SUPPORTED BY LEGADO DAS
ÁGUAS TOTALLED BRL 1.3 MILLION

Votorantim believes that there is no nature conservation without developing its surrounding area. The long-term vision of the company includes the belief that it is possible to have a seamless integration with the community. So, in 2012, several diagnostic studies were conducted. Then, three priority work fronts were defined:

- 1 foster economic activities related to social and environmental development;
- 2 expand the supply of infrastructure and public services;
- 3 integrate Legado das Águas in local communities so that they naturally incorporate Legado das Águas into their daily lives.

Aligned with the second work front in June 2014, agreements were signed with local governments to develop improvement plans in public administration, by developing technologies created with the support of Instituto Votorantim. The Public Administration Support Program was then initiated. First of all, the management situation and financial and fiscal vision of Juquiá, Miracatu, and Tapiraí were evaluated, giving rise to an action plan for increasing revenue and reducing expenditure, as well as for developing projects to raise funds for the three municipalities. Then in 2015, the financial and fiscal balance phase occurred, where public servants in these municipalities were trained and accompanied by a team from the Instituto Aquila to assist in the implementation of what was suggested during the first stage. The purpose of the training was to guide on the most effective use and management of the resources and the best way to raise them. Modernization projects were also delivered with defined goals and indicators, financial results of short- and medium-term actions, records of funding, and the implementation of a routine to monitor actions proposed.

Also in 2015, a Participatory Rural Diagnostic was produced, focused on identifying social investment opportunities aimed toward strengthening family agriculture, Legado das Águas' vision for sustainable rural development. In addition, the Engagement Program was initiated in order to support the company with planning the engagement of employees and community.

WORKING WITH TRADITIONAL POPULATIONS

Then, the first "Stakeholder Engagement" social technology course was opened to internal and external audiences. Some openings were even offered free of charge to employees of the municipalities covered by Legado das Águas.

In the Tapiraí municipality, with support from Resolve Consultoria, a specific project for approaching traditional communities that live within the Reserve has been carried out since 2014. The main activities are meetings, legal advice, georeferencing, registration of rural properties, support for local associations, and mapping of impacts. "In addition, committed to the future, Legado das Águas also brought the Votorantim Partnership for Education Program to the region, which has proven impact by accelerating the Basic Education Development Index (Ideb) of municipalities benefited. Improving education is a structuring action for the development of the region in the long term," says Rafael Luis Pompeia Gioielli, General Manager of Instituto Votorantim.

ACTIVITIES PERFORMED

- Social and economic diagnostic and mapping of the population of existing communities at Legado das Águas.
- Public Management Program.
- Mapping potentials.
- Detailing the social strategy.
- Mapping of regional production chains.
- Survey of opportunities.
- Diagnosis of sanitation.
- Mapping and prioritizing stakeholders.



PRIVATE AND PUBLIC SECTORS IN FAVOR OF NATURE

PATRICIA IGLECIAS, SECRETARY OF THE ENVIRONMENT OF THE STATE OF SÃO PAULO, ANALYZES THE BENEFITS OF THE ACTIVITIES CARRIED OUT BY VOTORANTIM AT LEGADO DAS ÁGUAS



DO YOU BELIEVE IT IS VIABLE FOR THE PRIVATE SECTOR TO RECONCILE THE SEARCH FOR PROFITABILITY WITH SUSTAINABLE DEVELOPMENT?

Patricia Iglecias: Yes, I have no doubt. This is the only way to achieve efficiency in the activity that is developed. Care for the environment and working with a sustainability agenda is nothing more than a more efficient activity. If this is not done, environmental liability will only increase. And this liability may be so absurd that it could totally consume any profitability. This is the only way to develop an economic activity today.

HOW MAY A PARTNERSHIP BETWEEN THE GOVERNMENT AND VOTORANTIM ENCOURAGE OTHER COMPANIES TO HAVE SIMILAR ATTITUDES?

Iglecias: This initiative is very enriching. I believe this is one of the best ways to deal with aspects related to the environment. Having the contribution of the private sector's most competent resource is very important for the environment. In the particular case of Votorantim, there is still another fundamental aspect.

WHAT WOULD THAT BE?

Iglecias: Antonio Ermírio de Morais was a visionary, when five decades ago, he acquired that land in Vale do Ribeira and kept it preserved all this time. He surpassed all expectations, compared to what usually happens. Attitudes like that offer a very large contribution to state management regarding public areas. In fact, I hope that this model may serve as inspiration for many companies. It brings very positive and significant results

“I hope that this model developed by Votorantim may serve as inspiration for many companies.”
Patricia Iglecias, Secretary of the Environment of the State of São Paulo

that may already be observed. It is different from some situations, whose benefits will only be harvested in a few years. Legado das Águas was the opposite. The land was acquired in the past and now we are reaping the results of what was planted back then.

ARE THERE OTHER ASPECTS THAT YOU CONSIDER FUNDAMENTAL?

Iglecias: Yes. Legado das Águas also works to achieve some national and international conservation goals. For example, the Reserve helps us comply with environment protection goals set at a UN meeting in 2010 known as the Aichi Targets (name of a province in Japan where Nagoya is located, the city in which this memorandum was signed). Target 11 provides that by 2020, countries that signed the document, including Brazil, should protect 17% of its land territory and 10% of its marine territory. The private sector, when protecting its areas, is also helping the country fulfill its part of the memorandum.

SECRETARY WITH MULTIDISCIPLINARY TRAINING

Patricia Iglecias has been the Secretary of the Environment of the State of São Paulo since January 2015. She is a full professor at the Department of Civil Law at the Law School of the University of São Paulo (USP). She is an advisor for the Masters and Doctorate courses of the Law School and the Environmental Science Program, also at USP. Patricia is also Vice President of the Southeastern Region of The Right to a Green Planet Institute, coordinator for the State of São Paulo Association of Environmental Law Professors in Brazil, a member of the Multidisciplinary Studies Center in Solid Waste at USP and the European Environmental Law Association. With extensive experience in the environmental field, her main areas of activity are sustainable consumption, reverse logistics, solid waste and post-consumer liability, shared responsibility, studies of contaminated areas, civil liability for environmental damage, and environmental compensation, among other topics.

AND WITH RESPECT TO WHAT HAPPENS AT THE RESERVE?

Iglecias: At this privileged location, the reserve acts as an important ecological corridor, especially for animals. What happens there, sooner or later, has repercussions in neighboring areas. It is important that Votorantim care for the Legado das Águas area because it is in a strategic location, in the Environmental Protection Area of the Serra do Mar and adjacent to the Jurupará State Park. So, monitoring promoted by Votorantim in the area is also noteworthy, because the idea had always been that monitoring protected areas is the responsibility of the state.

WHAT ELSE CALLED YOUR ATTENTION WHEN YOU VISITED THE RESERVE IN NOVEMBER 2015?

Iglecias: Strategies to maximize biodiversity conservation and the management plan are very interesting. Research and sharing experience among the professionals involved in these projects are critical to the continuity of Legado das Águas and the surrounding public areas. The work done with the traditional communities living within the Reserve and its surroundings is also noteworthy. Protecting the environment and traditional communities is one of the State's major challenges.

ARE THERE OTHER HIGHLIGHTS?

Iglecias: Yes. Bringing the local population to work at the seedling nursery is also positive. This is a real social and environmental activity. In addition, there is the water issue. Particularly between 2014 and 2015, the state of São Paulo went through a very severe water crisis. We know that the preservation of this area also made a fundamental contribution to the quality and volume of the water found at the Reserve. This is another demonstration of how Antonio Ermírio de Morais was a visionary. What he did back then is being harvested now. If he had not preserved the headwaters of the bodies of water in the late 1950s and early 1960s, today we would not be able to capture the water from the Reserve in the coming years, supplying millions of people in the Metropolitan Region of São Paulo. This is further evidence that the private and public sectors can be partners in various activities.

IN SEARCH OF THE FUTURE

AS WITH ANY OTHER ACTIVITY, THE RESERVE NEEDS REVENUE TO MAINTAIN ITSELF AND THRIVE. LEARN ABOUT THE PLANS FOR THE COMING YEARS

Legado das Águas is the largest private protected area of the country's Atlantic Rainforest. Officially established in 2012 as a Private Reserve, it combines environmental protection with the possibility of using natural resources sustainably, including the development of local communities in the region through inclusive business. All this, of course, is commendable, but to maintain this innovative proposal, financial, human, and legal resources are not sufficient. Therefore, Votorantim's sustainability team has developed a strategic plan and has set a deadline to reach much desired financial balance. "We believe that the Reserve may achieve its full economic and financial viability within 7 to 10 years," said David Canassa, General Manager of Sustainability at Votorantim. "Achieving this point of balance will be critical to ensuring its continuity," he adds. So, the first steps of the future of Legado das Águas are already guaranteed. Votorantim will:

- develop a strategy to generate economic and financial value;
- continue to invest in projects that support economic growth in the region;
- encourage new training, visits, and research;
- create actions to support the development of municipalities and local communities;
- invest in the relationship with the São Paulo State Government to create an ecological corridor formed by other parks and reserves;
- and, the most anxiously expected, open Legado das Águas for public activities.

The continuity of the Reserve depends not only on the strategic vision of Votorantim, but also on the creation of value and income that may keep it perpetually sustainable.

WHAT'S AHEAD

Tomorrow is built today. So, beginning in 2015, the main priorities were outlined for the coming years for Legado das Águas – Reserva Votorantim. Some of these projects, such as the **seedling nursery**, began in the first quarter of 2016 and aim to attract more research institutions and universities, schools that develop environmental studies and are interested in learning about Legado das Águas through its potential for public use, including ecotourism. The main goals are:

- build new housing, which is more modern, spacious and comfortable with a new landscape design;
- increase from 17 to 30 dorm rooms, expanding the capacity to 60 beds;
- in the support area, increase the capacity of the auditorium to 75 people, the cafeteria to 86, and the office to 18;
- expand the reception area and auditorium to 30 people;
- renovate and expand employee accommodations and dressing rooms;
- adjust the structure within Environmental, Health, and Safety protocols for public use;
- start environmental study and public use activities (ecotourism) in 2017.



photo: Legado das Águas



image: Metro Arquitetos Associados

LEGAL SECURITY

For a strong future and to ensure the continuity of actions, there must be legal foundations. In this regard, the actions are divided into two main topics (see on the side):

A) Real estate and land regularization

The land issue is a problem in almost all the protected areas of the world, whether public or private. Activities and the presence of squatters are being looked at carefully through monitoring, document regularization, and strengthening the community.

B) Legal support for business development

All activities promoted within the Reserve are legally supported in order to attend various legislative needs. Legal support is essential for the operation of Legado das Águas, for management initiatives, for environmental initiatives, and for development, improvement, and business projects, as well as to support the relationship with municipalities and communities.

AN INNOVATIVE MODEL

BY FRINEIA REZENDE,
SUSTAINABILITY MANAGER
AT RESERVA VOTORANTIM

“For many centuries, Brazil witnessed the devastation of its forests, with the fiercest intensity in the Atlantic Rainforest, precisely because colonization and settlements began on its green carpet. Today, after 482 years of colonization and agricultural and urban growth — and about 11% of the remaining biome —, we see the collapse of systems that depend on natural resources and various ecosystem services. This is because the growth model often does not take into account the need to maintain and protect resources.

ecosystem services. The latter, in turn, will ensure that programs associated with the economic development of the region are viable. There is a long way to go, and many barriers of understanding to be overcome. The private reserve model is still under construction and seeking space between different players and agencies to be recognized as relevant and efficient, and referring to it as sustainable is unnecessary, since sustainability should be a prerequisite for any project. The idea of creating a private reserve model that reconciles full

“Partnerships were essential to defining a strategy that allows us to develop projects that fulfill the role of keeping the forest standing, ensuring the protection of biodiversity, and maintaining ecosystem services.”

Until a short time ago, water scarcity — this problem not unique to the state capital — was unthinkable in São Paulo. Today, we are seeking out this resource in remote distances. The protection of this territory, now known as Legado das Águas, for the last 50 years, protected this ecosystem service and many others, ensuring that today many people are directly benefitted. Planning the Reserve strategically requires broadening horizons, seeking the latest in terms of managing protected areas, and creating an innovative model where environmental conservation is in line with creating value and social development. In the last five years since we started — as part of Votorantim General Sustainability Management — the Legado das Águas project, the search for partners to bring in innovative solutions was a premise. Thanks to these numerous partnerships, we managed to define a strategy that allows us to develop projects that fulfill the role of keeping the forest standing, ensuring the protection of the existing biodiversity, and maintaining

protection and sustainable use of the same region is unprecedented in Brazil, and for Legado das Águas, innovative. This is why it is so often misunderstood (the model). It is urgent to understand that preservation and conservation must go hand in hand so that generating economic and financial resources is a viable possibility in any situation. This concept aims to provide balance between investments and financial returns that remain associated with conservation. In fact, this innovative scenario provides value that is created and shared among all. An understanding of the possibility of sustainable use of private protected areas may encourage other people and institutions to follow this model and create their own private reserves, contributing to greater conservation, beyond the borders of this biome and reaching all others. Our legacy is also contributing to the development of a model that we hope to see replicated by many at countless locations.”

THANK YOU SO MUCH!

The achievements included. In this Report were only possible due to the involvement of government agencies, private institutions, and partners. Therefore, we offer our sincere thanks to the Government of the State of São Paulo, the Fundação Florestal, Votorantim Energia, CBA (Companhia Brasileira de Alumínio), and Instituto Votorantim. We also would like to thank the researchers for their dedication; their important work has contributed to advancing scientific knowledge in Brazil, and photographer Luciano Candisani, author of the most beautiful images illustrating this publication.

LEGADO DAS ÁGUAS,
WHERE THE ATLANTIC RAINFOREST
PERSISTS, A GIFT FROM VOTORANTIM
TO BRAZIL'S FUTURE GENERATIONS



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