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FOREWORD

Reinforcing public policies that promote an ecologically balanced environment is crucial to assure real conditions for sustainable development. In the State of São Paulo, the most populous and productive State in Brazil, this task is assigned to the Environmental System of São Paulo.

For such purpose, we count with a solid structure, constituted by the Secretariat for the Environment and several linked institutes and agencies, such as the Forest and Zoological Park Foundations; the Forest, Botany and Geological Institutes; and CETESB, each one developing initiatives that contribute for the solution of the environmental challenges faced in the State.

For the success of our activities, the collaboration with internal and external partners is fundamental, including through international cooperation mechanisms. Thus, it is with great satisfaction that we publish this **Projects Portfolio**, inviting the reader to get to know the projects and programs executed by the Environmental System of São Paulo. For each one of the initiatives, it is possible to identify the state of its implementation, as well as the several opportunities of partnership and collaboration with our agencies and institutes.

By publishing this Portfolio, we expect to contribute for the full communication of our actions. Inspiring greater environmental preservation efforts through collaborative work is our main goal, and we are certain that the present material is an important instrument for such purpose. Enjoy your reading!

Patrícia Iglecias

Secretary for the Environment

Government of the State of São Paulo

INTRODUCTION

This work compiles the projects of the Environmental System of São Paulo in the scope of the five strategic guidelines of the 2015-2018 management, namely:

1. Environmental conservation and ecological restoration;
2. Reduction of the environmental footprint;
3. Environmental vulnerability and climate changes;
4. Management and conservation of the wild fauna; and
5. Environmental licensing.

The methodology utilized was based on interviews with the Coordinators and/or representatives of the Environmental System Coordinating Bodies (Environmental Education; Urban Environments; Environmental Planning; Biodiversity and Natural Resources; Environmental Inspection); of the Botany, Geological and Institute of Forestry; of the Forest and Zoological Park Foundations; and of CETESB. The subsequently submitted data were compiled in a summarized and standardized manner, so that the reader's first contact with the material is of easy understanding, with the possibility, at a second moment, of searching for more in-depth information.

A classification caption helps in the immediate identification of the intended results by kind of cooperation (technical/scientific cooperation to be offered; technical/scientific cooperation required or financial cooperation required), and a specific list for the projects that only seek qualification is provided in the end.

With the present material, we intend to improve both the internal communication of the Environmental System of São Paulo and the external communication, directed towards partnerships with national, foreign and international institutions.

Thereby, the International Affairs Advisory of this State Department expects to give its contribution to deepen the institutional relations of the Environmental System of São Paulo. We are at your disposal to explore partnership initiatives that may be of interest to the reader.

Ana Paula Fava

International Affairs Advisor

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DEFINITIONS OF COOPERATION

- **Technical Cooperation**

It is achieved through the development of a joint project, where there is the cession and/or interchange of technical knowledge, among two or more agents, by means of the visit of specialists (from the grantor), of sending technicians for training (from the receiver), and, in certain cases, also involve the donation of equipment (from the grantor).

- **Scientific & Technological Cooperation**

It is substantiated on the transference of scientific and technological knowledge among two or more agents (grantors and receivers), through the interchange of specialists (from the grantor and receiver), with the purpose of implementing projects that involve the development of joint researches of mutual interest.

- **Financial Cooperation**

It is based on the concession, in special conditions, of financial resources of one (or more) agent(s) (grantor) to (an)other (receiver), by means of loans and/or financial contributions, intended to the implementation of a technical project.

The following projects are classified as subject to:

 Technical support to be offered

 Technical support required

 Financial support required

PROJECTS RELATED TO GUIDELINE 1 - ENVIRONMENTAL CONSERVATION AND ECOLOGICAL RESTORATION

This Guideline has the purpose of broadening the preserved areas and areas in process of ecological restoration of the ecosystems in São Paulo, and is subdivided into four programs:

- 1) Environmental adequacy of the rural properties of São Paulo;
- 2) Ecological restoration;
- 3) Consolidation and broadening of protected areas;
- 4) Biomes from São Paulo: production of information such as allowance to the conservation and restoration of the Atlantic Forest and Cerrado from São Paulo.

RIPARIAN FOREST PROGRAM



HOW IT HAPPENS

Riparian forests are fundamental for the ecological balance, offering protection for the waters and soil, reducing the silting of rivers, lakes and dams, and preventing the contribution of pollutants to the aquatic environment. Protecting the vegetation around these water bodies is then fundamental to protect water resources.

They form, furthermore, corridors that contribute to the conservation of biodiversity; they provide food and shelter for the fauna; they constitute natural barriers against the dissemination of pests and agriculture diseases; and, during their growth, they absorb and fix carbon dioxide.

The Riparian Forest Program, created in 2014 through Decree No 60.521, is

being executed in a coordinated manner with other actions developed by the Secretariat for the Environment, aiming at the recovery of riparian forests throughout the territory of the State of São Paulo. A standard unit (Equivalent Tree) was created, for which the liabilities (obligations of forest replacement) and the assets (restoration projects) will be converted, considering the equivalence in environmental importance. This will enable us to prioritize the recovery of the areas of greater relevance for the conservation of the water and of the biodiversity.

In practical terms, the Riparian Forest Program has the goal of restoring nearly 20 thousand hectares of riparian forests and protecting six thousand kilometers of waterways with public and private investment. The actions encompass the watersheds of Alto Tietê, Paraíba do Sul and Piracicaba-Capivari-Jundiaí, regions that concentrate more than 30 million inhabitants. In the Piracicaba-Capivari-Jundiaí watershed, for example, the Cachoeira Project was developed with the aid of the Secretariat for the

Environment in one of the four main reservoirs of the Cantareira System. This Project, which has the purpose of planting 350 hectares around the homonymous reservoir, is the result of a partnership between the Secretariat for the Environment, a local cooperative organization (Ambiência Cooperativa de Trabalho para Reflorestamento Ambiental da Represa de Piracaia e Região) and the NGO The Nature Conservancy (TNC).

Another pilot project that must be highlighted is Mina D'Água, which tests methodologies of economic incentives for voluntary reduction of the deforestation and environmental protection policies conducted in partnership with the cities. In the city of Piracaia, initiatives are being developed in nine properties, involving 31 springs.

GOAL

Broadening the protection and conservation of the water resources and of biodiversity, by means of the optimization and direction of public and private investment for:

I - protection and recovery of riparian forests, springs and waterholes; II - protection of aquifer recharge areas; III - broadening of the native vegetation coverage in springs, especially upstream of collection points for public supply; IV - planting of native trees and improvement of the handling of productive systems in basins that form water springs.

NEXT STEPS

- Selecting and registering ecological restoration projects in collection areas for water supply;
- Directing investment to finance the registered projects, including:
 - Planting executed for the fulfillment of environmental liabilities;
 - Volunteer projects executed for the compensation of emissions or water footprint;
 - Financial incentive under the form of Payment for Environmental Services.



Technical support to be offered



Technical support required

CONSERVATION UNITS MANAGEMENT



RESPONSIBLE OFFICE

Forestry Foundation – FF

HOW IT HAPPENS

The National System of Nature Conservation (SNUC), established by Law No 9.985, of July 18th 2000, enabled some institutionalization and structuring by regulations of activities and practices directed towards the management of areas provided with attributes of unique socio-environmental relevance.

The Secretariat for the Environment of the State of São Paulo, besides applying the federal model assuming the management of the categories of CUs foreseen by SNUC since its implementation and supporting the management and the establishment of other protected areas, is also in charge

of the Information and Management System for Protected Areas and Areas of Environmental Interest of the State of São Paulo – SIGAP-SP. Established by Decree 60.302, of March 27th 2014, the State started to count with a system to integrate, organize, catalogue and provide information regarding existing protected areas and areas of environmental interest, structuring the specific regulation to associated activities, favoring the framework of tools for the management and sustainable practices in protected areas.

GOALS

- Promoting the maintenance of the habitat of rare or endangered species;
- Protecting the natural functioning of protected environments;
- Promoting territorial planning;
- Supporting the life style of neighboring communities;
- Promoting research activities; among other programs and actions.
- Promoting participative management through traditional Managing Councils and populations;
- Promoting environmental inspection;
- Organizing activities of public use and environmental education.

1. Technical support to be offered

- Internalization of sustainability practices in the management;
- Development of educational itineraries in trails and other attractive points;
- Environmental monitoring activity in CUs for accompanying of visitors and organized groups and with specific interests, as well as support and elaboration, conduction and follow-up of projects of environmental

education and management of protected areas and the environmental interaction in the CUs;

- Qualification in management which is participative and shared with society, particularly the actions at the managing councils;
- Prospection of new businesses and formatting of partnerships with private initiative;
- Feasibility analysis of businesses with structuring of permits and authorizations of use in public use activities;
- Development of ecotourism products as an alternative for revenue generation;

2. Technical support required

- Economic potential of the Carbon Reserves;
- Evaluation of the economic impact of the public use activities;
- Establishment of partnerships with private initiative and third sector for forest restoration projects;
- Feasibility analysis of businesses with structuring of permits and authorizations of use in public use activities in CU;
- Implementation of a follow-up and evaluation system of the

environmental education in CU, with establishment of indicators;

- Qualification in management that is participative and shared with society.

3. Financial support required

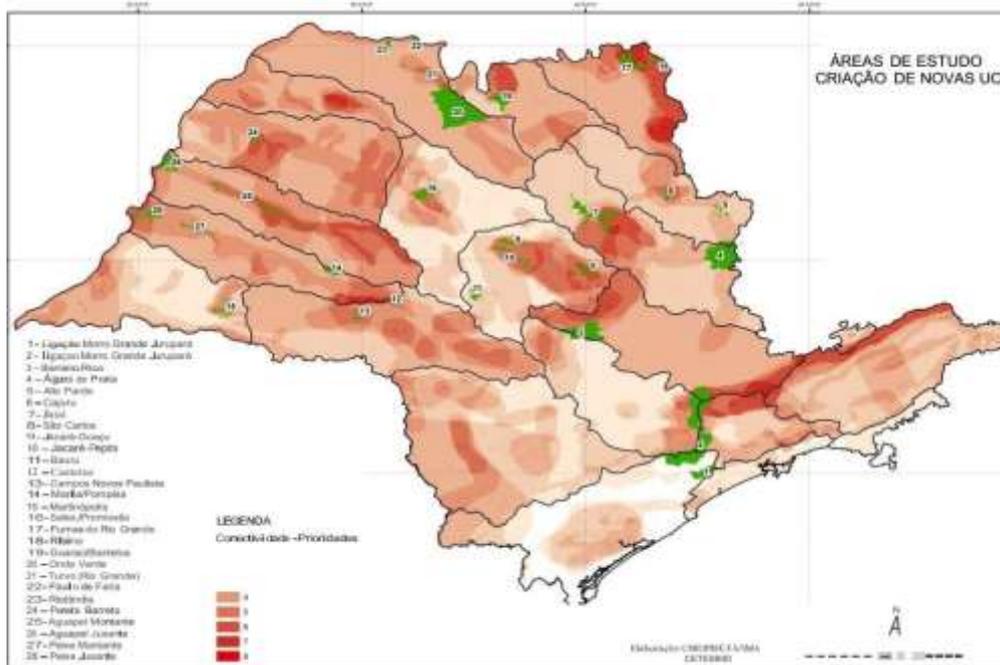
- Elaboration of publications for promotion of the CU;
- Development of alternative transportation for public use activities;
- Monitoring of the environmental impact of the public use activities in CU; Economy of the Ecosystems and

of the Biodiversity of São Paulo for valuing of the biodiversity and the ecosystem services;

- Implementation of computerized technologies for control of access and monitoring of the public use in CU;
- Implementation of communication improvement projects in CU - voice and data transmission;
- Implementation of alternative energy systems;
- Implementation of Sewage Treatment Systems.



PLAN FOR EXPANSION OF PROTECTED AREAS IN THE STATE OF SÃO PAULO



RESPONSIBLE OFFICES

Biodiversity Committee of São Paulo - CPB

HOW IT HAPPENS

The Plan for Expansion of Protected Areas in the State of São Paulo systematizes the proposals for the creation of protected areas (PA) and the studies about territories, connectivity between fragments of native vegetation and fundamental instruments to the conservation of biodiversity in the whole State of São Paulo, within the context of the

Biodiversity Committee of São Paulo (CPB) and of the Permanent Committee in Charge of the Creation and Broadening of Protected Areas of the State of São Paulo (CNAP), created by SMA Resolution No 25, of April 27th 2015. The CPB was created by Decree No 57.402, of October 6th 2011, with the purpose of implementing the Strategic Plan for Biodiversity 2011-2020 of the Biological Diversity Convention – recognized as the (20) Aichi Targets - in the State of São Paulo. In this case, highlighting Target 11:

“In 2020, at least 17% of the terrestrial zones and of continental waters, and 10% of the coastal and marine zones, especially areas of particular importance for biodiversity and ecosystem services, must be conserved by means of efficient and equitable management, ecologically represented, with well-connected systems of protected areas and other efficient measures of conservation based on area, and integrated in broader terrestrial and marine landscapes.”

This Plan is based on several themes, which extrapolate the conservation of biodiversity. In an integrated manner, there are several strategic environmental issues, such as the conservation of biodiversity, climate changes, water resources and sustainable development. We highlight, besides the Biological Diversity Convention - CDB (“Rio 1992”; Federal Decree No 2.519/98):

- National environmental policy (Fed. Law No 6.938/81)
- Constitution of the Federative Republic of Brazil (1988)
- Constitution of the State of São Paulo (1989)
- SEAQUA – System that organizes the environmental issues in the State of São Paulo (State Law 9.509/1997)
- SNUC – National System of Conservation Units (Fed. Law 9.985/2000)
- PNAP – National Strategic Plan of Protected Areas (Fed. Dec. 5.758/2006)
- National Policy about Climate Changes (Fed. Law No 12.187/2009)
- State Program for Climate Changes (Law No 13.798/2009 and Dec. No 55.947/2010)
- Quality Report of the Surface Waters of ESP – CETESB (2011/2012)
- State Plan of Water Resources 2012/2015
- Strategy for the Sustainable Development of the State of São Paulo 2020 (State Dec. No 58.107/2012)
- Forest Code (Fed. Law 12.651/2012)
- CONABIO Resolution – National Committee of Biodiversity – No 6/2013, instituting the National Strategic Plan of Biodiversity 2020 (03/Sept/2013)

The dynamics of this Plan consists in five main phases:

1. Identification of the priority areas (implementing studies such as the BIOTA-FAPESP)
2. Optimization of the works and establishment of partnerships for:
 - Preparation to create CU: Data collection and Organization of documents for the creation of CU (in the proper category);
 - Studies for preparation for PA expansion;
 - Studies for creation of new protection instruments.
3. Consolidation of the operational list of priorities;
4. Land Property Regularization of Areas, when applicable (after analysis of the PPI/PGE: in creation of the CU of full protection of public domain), by means of:

- **Allocation of resources of the Special Expenditure Fund for Preservation of Biodiversity and of the Natural Resources - FPBRN (Decree No 57.547 of November 29th 2011), created with the purpose of obtaining and assuring complementary resources intended for the development of the natural resources preservation activities, integrated to the search for new sources of resources - international funding and donations;**
 - Redeployment of the TCRAs;
 - Receiving of environmental compensations coming from TACs or Legal Agreements;
 - Organized direction of resources intended for the institution of legal reserve (not applicable to CU);
5. Implementation of the CU, of the PA and of the created instruments.



Financial support required

MAPPING OF THE ECOSYSTEMS OF THE STATE OF SÃO PAULO



RESPONSIBLE OFFICES

Biodiversity Committee of São Paulo - CPB

HOW IT HAPPENS

The ecosystem approach is one of the crosscutting themes adopted by the Convention on Biological Diversity. The Parties of CDB understand that this approach contributes to the harmonic reach of the three goals of the Convention: conservation; sustainable use and sharing of benefits.

According to the Executive Secretary of CDB, Dr. Braulio Dias, the ecosystem

approach allows relating the biodiversity, the ecosystem services and their economic use by the human societies, in order to effectively contribute to reaching the Aichi Targets, established in the scope of the Strategic Plan for Biodiversity 2011-2020.

The Strategic Plan detailed the importance of this relationship, claiming the Parties to commit to adopt measures that promote the decrease of the loss of biodiversity, preserving the resilience of the ecosystems and the continuous provision of the

environmental services and, consequently, contributing to the conservation of the diversity of life and the eradication of poverty.

However, it is highlighted that there is a basic pre-condition to advance in this direction: collect and evaluate data concerning the current situation of the ecosystems.

In this sense, the IUCN – International Union for Conservation of Nature – is implementing the Ecosystem Management Programme, which includes the “Red List of Ecosystems”. This initiative models after what has been performed by this organization for several years, the establishment of a methodology to identify the endangered species and frame them into different threat categories, guiding public policies to ensure its conservation.

The first step to establish the “Red List of Ecosystems” is mapping the existent ecosystems in a certain territory.

Brazil started this process through the conduction of a Seminar, in April 2013, about the theme, promoted by MMA - Ministry of the Environment, ICMBio, IUCN, IPÊ, WWF Brazil, among other organizations and states, occasion in which a Work Group was defined to

carry on the discussions and propose a national strategy. In November 2013, the first meeting of the Work Group was conducted, having been defined that some case studies should be conducted to evaluate the methodology for mapping of the ecosystems.

The State of São Paulo has been adopting several initiatives that may support and improve this action:

- It has the BIOTA-FAPESP Program, currently known as the Virtual and Biodiversity Institute, released in 1999 with the purpose of knowing, mapping and analyzing the biodiversity of the state of São Paulo (www.biota.org.br).
- It has established the Biodiversity Committee of São Paulo, which involves several state agencies, besides universities, NGOs, productive sector and federal government, with the aim of implementing the Action Plan to achieve the Aichi-Nagoia Targets, adopted by the 10th Conference of the Parties of CDB.
- By means of the SMA/SP, it periodically conducts the updating of the Forest Inventory of the state of São Paulo, mapping the remaining native forests.

- It has just provided the first results of the Mapping São Paulo Project, conducted by the Secretariats of Development and Regional Planning and of Metropolitan Development / Company from São Paulo of Metropolitan Development – EMPLASA (www.emplasa.sp.gov.br/emplasa/cartografia/mapeiaSP.asp): orthophotos of the whole state and mapping update.
- The SMA has signed an agreement with the Conservation International of Brazil, CI-Brasil, to develop the “TEEB - São Paulo” project, which consists in the conduction of a pilot study in the

scope of the state for the TEEB – The Economics of Ecosystems and Biodiversity, with the support of the World Bank.

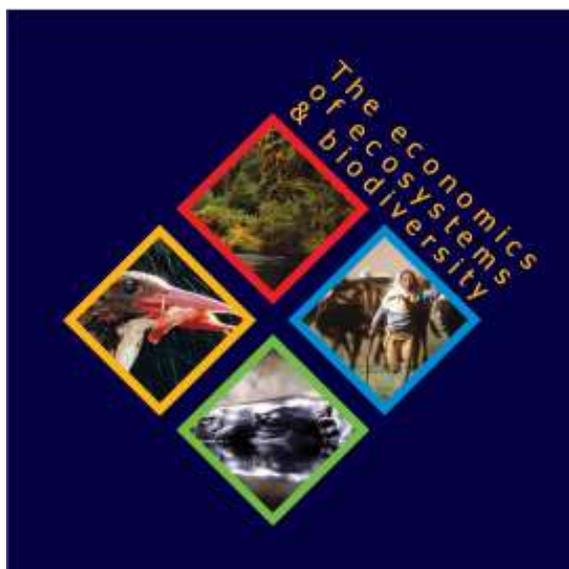
NEXT STEPS

The mapping of ecosystems of the State of São Paulo will significantly contribute to all the actions underway, identified above, besides being able to constitute in one of the case studies at national level and serve as an instrument for the implementation of Law 12.651/12, known as the New Forest Code.



 Financial support required

TEEB-SP –THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY OF SÃO PAULO



RESPONSIBLE OFFICES

Biodiversity and Natural Resources
Coordination– CBRN

HOW IT HAPPENS

The TEEB - The Economics of Ecosystems and Biodiversity is an initiative focused on the value of biodiversity and of the ecosystem services and in the identification of the risks and social and economic costs associated to its loss, as well as the opportunities generated by its conservation and sustainable use.

The Environment State Secretariat has established an agreement with the Conservation International of Brazil to develop the **TEEB São Paulo**.

Until the moment, the main ecosystem services of the State of São Paulo have been raised, as well as of available methodologies for the economic valuation of these services and, from that point on, the scope and scale of the TEEB São Paulo were defined.

The process involved the hiring of specialized consultancy for the survey of key actors and updated bibliographic references, elaboration of two workshops involving the academy, the civil society and the government, besides a workshop with local representatives.

GOAL

The goal of the first Regional TEEB-SP Paraíba do Sul River Basin - is to contribute to a more efficient and coherent management of the natural resources of the Paraíba do Sul River

Basin - São Paulo Part, and, at the same time, foster the regional development and sustainable local.

The results must correspond to the inputs for public policies of incentive to the conservation of the ecosystem services in the Paraíba do Sul River Basin - São Paulo Part, with focus on actions to stimulate rural producers to adopt sustainable practices.

The TEEB SP will have as its focus small landowners, in priority areas for the conservation of biodiversity and for water production.

It is expected that the public policies proposed by the TEEB SP foster the sustainable regional and local development, promoting the reduction of the negative impacts to the ecosystem services and main degradation factors.

NEXT STEPS

It is expected that this project performs the economic, ecological and sociocultural valuation of the Ecosystem Services, bringing recommendations of public policies for the conservation and preservation of the ECs, as well as generation of income and scenario change, besides estimating emissions of greenhouse gases (GHG), Carbon sequestration in restoration and potential of Payment for Environmental Services (PSA). This way, the project will subsidize the implementation of strategic state policies and mechanisms that aim at the promotion of a better management, use and preservation of the natural resources of the State of São Paulo.



- Technical support required
- Financial support required

RURAL ENVIRONMENTAL REGISTRY SYSTEM OF SÃO PAULO – SiCAR SP



RESPONSIBLE AGENCIES

Biodiversity and Natural Resources
Coordination– CBRN

HOW IT HAPPENS

The CAR - Cadastro Ambiental Rural [Rural Environmental Registry], mandatory registration to all rural properties and possessions in Brazil, was instituted by the New Forest Code (Fed. Law No 12.651, of May 25th 2012).

The information in the registry, which encompass from basic data of the property until spatial data regarding its environmental situation - such as

Permanent Preservation Areas, rivers, Legal Reserves and areas with native vegetation - are declaratory, the rural owner or possessor's responsibility.

The properties or possessions located in the State of São Paulo must be registered only at the SiCAR from São Paulo (www.ambiente.sp.gov.br/sicar). All the data are migrated to the National System, composing one single database.

GOALS

- Unification of the databases of the environmental system of São Paulo, to facilitate the citizens' requests related to the environment - authorizations, certificates and licensing referring to the State of São Paulo;
- Possibility of a more effective environmental management, with control of the deforestation and possibility of environmental planning based on the land-ownership structure;
- Main tool and entrance door of the properties for rural environmental adequacy. It will enable a greater control over the compliance with the environmental law, and will aid in the fulfillment of the national and international targets for the maintenance of the native vegetation and ecological restoration of ecosystems.

The CAR results are very satisfactory: in September 2015, more than 55% of the registrable area in the State

was already inserted in the registry, showing the success of the tool, which already enables us to raise diagnoses, conduct the planning of projects and develop strategies for a better management of the natural resources and of the biodiversity.

NEXT STEPS

It would be interesting to receive cooperation in the following fields, taking into consideration the need for guidance to the users of SiCAR-SP, as well as the future integration with other existing environmental data and the National System:

- Financial or HR for rural extension, supporting small landowners in the registration and, mainly, in the environmental regularization of their properties, within the scope of the Environmental Regularization Program;
- Technological in Geographic Information Systems to favor automatic analysis methods of the SiCAR information.

-  Technical support required
-  Financial support required
-  Technical support to be offered

SARE- COMPUTERIZED SYSTEM OF SUPPORT TO THE ECOLOGICAL RESTORATION



HOW IT HAPPENS

The SARE- Computerized System of Support to the Ecological Restoration, it is the platform that unites all the Ecological Restoration Projects in the State of São Paulo.

Established by Res. SMA 32/2014 and provided by means of Res. SMA 49/2015, the system innovates by allowing not only the spatialized registration, containing information about diagnosis and field actions, but also the insertion of data regarding the monitoring of the ecosystems under restoration, allowing to follow up if the actions conducted on site are being effective.

In this sense, the SARE constitutes one of the main subsidies to the environmental adequacy of the rural properties foreseen in the native vegetation protection law (Law 12.651/2012).

In the SARE, the person responsible for the project (restorer), either fulfilling legal requirements or performing voluntary actions, executes the registration and monitoring of indicators that includes field surveys and updating of the system online.

GOALS

- Unifying the registries of all the Ecological Restoration Projects

developed in the State of São Paulo in one single platform;

- Enabling a more effective management of the legal commitments of recomposition of the riparian vegetation, of hillsides, Legal Reserve, among other protected areas, including resulting from licensing, damage repair and regularization of rural properties;
- Assisting the executors of restoration projects, providing support tools and technical materials;
- Accompanying the results of the projects, by means of ecological indicators developed in partnership with researchers and professionals from several institutions;
- Allowing the follow-up of the national and international targets for the ecological restoration undertaken by the State.

NEXT STEPS

The SARE will go through several adjustments related to the advance in the institutional norms and procedures,

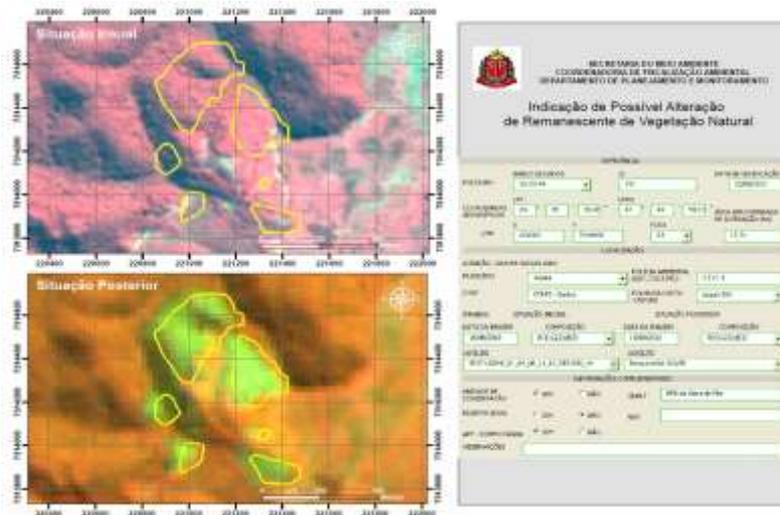
-  Technical support required
-  Financial support required
-  Technical support to be offered

especially those resulting from environmental regularization, inspection and licensing.

Among the possibilities of cooperation, we highlight the following:

- Technical / financial support to the landowners interested in promoting the restoration;
- Technical / financial support to the managers of state areas to promote the restoration;
- Technological in conception and enhancement of field monitoring tools through remote sensing;
- Technological for the development of applications for mobile devices compatible with the SARE;
- Technical / financial for the conduction of communication and engagement workshops of the actors involved in the process of ecological restoration and environmental adequacy, in consonance with the SARE guidelines.

MAIS – ENVIRONMENTAL MONITORING THROUGH SATELLITE IMAGES



RESPONSIBLE OFFICE

Environmental Inspection Coordination
- CFA

HOW IT HAPPENS

The areas with natural vegetation are fundamental for the conservation of the biodiversity and for the maintenance of the ecosystem services. Thus, ensuring the protection of the 17,5% of the natural vegetation that still remain is a priority of the environmental inspection in the State of São Paulo.

In order to contribute to the fulfillment of this challenge, the Secretariat for the Environment (SMA) has developed a

methodology that enables the identification and inspection of the illegal deforestations and burnings occurred in the state of São Paulo: the MAIS – Environmental Monitoring through Satellite Images.

The monitoring routine created by MAIS associates quickness and low cost, enabling each one of the nearly 24.800.000 hectares of all the territory of São Paulo to be monitored from five to twelve times a year. Any deforestation occurred in areas larger than 0,3 hectares, which equal to a little more than 1/3 of a soccer field, may be located and immediately sent to the Environmental Military Police (PAMB).

Current satellite images are overlapped to the aerial photographs captured between the years of 2010 and 2011, by the São Paulo Mapping Project of EMPLASA (Company from São Paulo of Metropolitan Development), enabling to identify the natural vegetation areas that have suffered alterations, such as: deforestation, trimming, burning, barring or earth moving. Also monitoring unlawful uses of Legal Reserves.

After the irregularities have been ascertained, a set of documents is elaborated and immediately sent to the Environmental Military Police, which then starts the procedures for field inspection.

Once the infringement has been ascertained, PAMB draws up the Environmental Infringement Notice, indicating the punishment to the

violator and the applicable measures for the recovery of the area.

GOAL

Identifying and informing possible alterations in the remaining natural vegetation in the State of São Paulo.

NEXT STEPS

Enhancing the methodology, improving the quality of the information and reducing the time between the taking of images and the submission for inspection.

-  Technical support to be offered
-  Technical support required
-  Financial support required

CERAD - SPECIAL COORDINATION OF RESTORATION OF DEGRADED AREAS



RESPONSIBLE OFFICE

Institute of Botany - IBt

HOW IT HAPPENS

CERAD, since its opening, in 2000, has been operating in several areas of the sciences of ecological restoration of degraded environments, conducting researches with economical and technical-scientific focuses in at least three regions, the city of Mogi-Guaçu, the areas of Campininha and of the São Marcelo Forest Park RPPN (IPAPER); the State Park of Fontes do Ipiranga – PEFI; and the areas linked to the environmental compensation of Rodoanel, South and North parts.

CERAD also has a Geoprocessing Laboratory, where studies are developed, giving support to researches conducted by the Institute of Botany and aid in its planning, supporting the publishing of results and providing maps and other products for scientific articles, book, news reports.

It is an integral part of CERAD, also, the Tamboril Nursery, differentiated because it promotes the *ex situ* conservation of biodiversity, by means of a live collection of rare and endangered species, aiming at the propagation and reinstatement in nature.

GOALS

Conduction of studies and experimental surveys for the evaluation and monitoring of areas in process of restoration, by means of standardized analyses for comparison of results and establishment of new parameters.

NEXT STEPS

The results obtained in this coordination has been enormously contributing to the resolutions of the Secretariat for the Environment, in search for the improvement of the environmental

public policies of the government of the State of São Paulo.

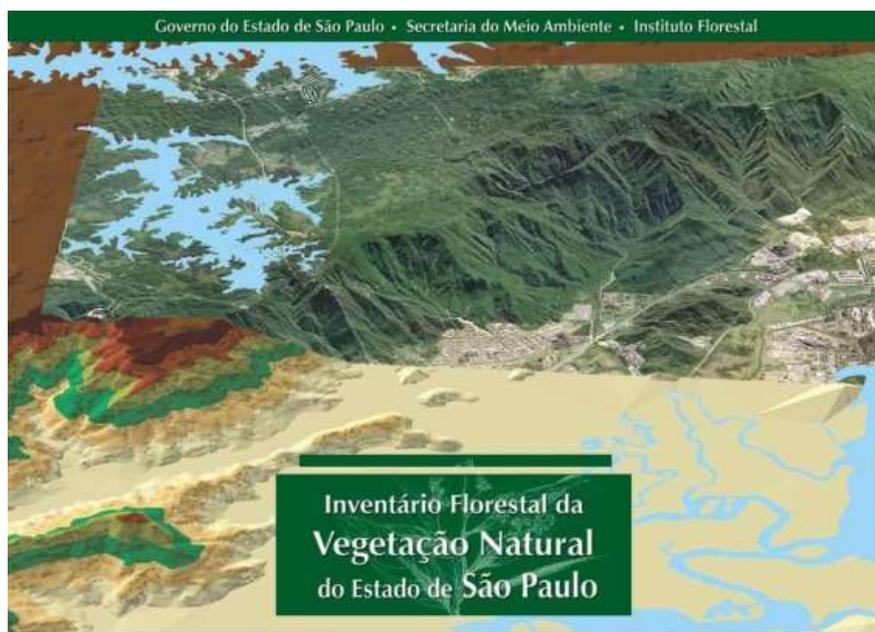
The generated information also feed a database that will enable several studies and also are discussed in scientific events organized by CERAD.



Before and after the process of ecological restoration.

Varginha Park – City of São Paulo

FOREST INVENTORY OF THE STATE OF SÃO PAULO - MAPPING OF THE NATIVE VEGETATION COVERAGE



RESPONSIBLE OFFICE

Institute of Forestry – IF

HOW IT HAPPENS

The Forest Inventory of the State of São Paulo maps and quantifies the vegetation coverage of the State, evaluating its distribution and evolution. Mappings have already been conducted in the periods of 1993, 2000 and 2010.

Since 2000, it starts integrating and subsidizing the Biota Program - FAPESP (Research Support Foundation of the

State of São Paulo), in the survey of the biodiversity of the State.

Its results show the situation of the native vegetation in each city and also per watershed.

In 2008, it was the base for the formulation of “Actions Indicated for the Increment of the Connectivity” and indication of “Fragments for the Creation of Full Protection Conservation Units”.

GOAL

The Forest Inventory is an effective scientific tool for the planning and

strategic environmental evaluation of the environmental goods and services, of the living environment, of the potential climate impacts on the natural systems, of the ecosystems, as well as the provision of subsidies to the actions of conservation, licensing, inspection and for environmental public policies.

NEXT STEPS

Seek for partners that may finance the update of the Inventory, once it is contemplated in Law No 13.798, of November 9th 2009, which regulates the State Policy of Climate Changes, and which establishes that the referred project must be updated and published at every three years, with its data detailed by UGRHI (Hydrographic Units of Management of Water Resources) and by city.



-  Financial support required
-  Technical support to be offered
-  Technical support required

SYSTEM OF SUPPORT TO RESEARCH MANAGEMENT IN CONSERVATION UNITS OF THE STATE OF SÃO PAULO



RESPONSIBLE OFFICE

Institute of Forestry – IF

HOW IT HAPPENS

The Technical-Scientific Committee (COTEC) has the function of evaluating, analyzing and controlling the researches developed in the Institute of Forestry and in the conservation units managed by the Forestry Foundation. This way, it is responsible for the researches that may occur in more than 4 million hectares of protected areas, distributed over more than 180 conservation units. Having, thus, as main activities, the record and analysis of scientific projects conducted in the protected areas of the State System of Forests – SIEFLOR or developed both by external researchers and by the

technical body of the Institute of Forestry.

GOALS

By means of this project, it is expected to automatize the procedures of COTEC/IF/SMA at the internal (managers of COTEC, managers of the conservation units and scientific researchers who act as reviewers, besides SEAQUA) and external audiences (research fostering agencies, ICMBio, IBAMA and MMA, besides universities and other education institutions, researchers, research institutions and students – from Brazil and from other countries). The results arising from these projects have significant importance, as they generate scientific knowledge necessary to the management and conservation of the units where the

project is executed - feeding the elaboration and the reviews of the respective handling plans and theme plans (fauna, vegetation, recovery, public use, etc.).

NEXT STEPS

Minimum structuring of COTEC for the process of automation and the expected procedural alterations;

Hiring of specialized technical services in automation of the COTEC procedures, integrated to the related efforts conducted by the Office of the Environment State Secretariat.



 Financial support required

PROGRAM OF GENETIC CONSERVATION OF TREE SPECIES OF THE INSTITUTE OF FORESTRY OF SÃO PAULO



RESPONSIBLE OFFICE

Institute of Forestry – IF

HOW IT HAPPENS

Conservation encompasses the preservation, maintenance, sustainable utilization, restoration and improvement of the natural environment. The knowledge of the genetic structure of populations is understood as the fundamental stage for the conduction of conservationist programs. The data generated by researches in population genetics may

be utilized to define conservation units and priorities for the handling of genetic resources, indicating areas and populations of greater or lower importance for the preservation of the referred taxa and enabling the development of effective conservation strategies.

GOALS

The specific goals of the Program are conserving *in situ* the genetic diversity of populations of tree species, endangered, of occurrence in the State of São Paulo and conserving *ex situ* the genetic diversity of populations of tree species in the State of São Paulo, which are currently at a high risk of extinction or those intended to be utilized in a short or medium term, in programs for improvement or production of seeds.

 Technical support to be offered

SEED ORCHARD



of

RESPONSIBLE OFFICE

Institute of Forestry – IF

HOW IT HAPPENS

By means of the installation of Seed Production areas, through the implementation of genetic conservation banks of native tree species for forest revegetation in the State of São Paulo.

GOALS

The main purpose of this project is broadening and improving the production of seeds for native tree species of occurrence in the Atlantic Forest and Cerrado in the genetic scope, which will be used for the implementation of forest stands for several purposes, such as the recovery

degraded areas and commercial planting of native species, aiming at the production of such high quality wood, with a broad genetic variability and great population count.

NEXT STEPS

Identifying priority species for conservation and broadening of the Germplasm Bank. Marking matrices, collecting seeds, producing seedlings and installing new sources of seeds for the production of seeds.

Handling of the Germplasm Banks installed in the 1970s, improving the quality of the seeds, with the guarantee of genetic variability, altering/transforming the production profile for the categories of Clonal Seed Orchards and Seed Production Area.

● Financial support required

TRAILS OF SP PROGRAM



RESPONSIBLE OFFICE

Forestry Foundation - FF

HOW IT HAPPENS

The Program aims at the standardization and strengthening of the ecotourism products and services chain in the Conservation Units and in the regions where they insert, bringing the population closer to the protected natural areas by means of the interaction with nature, also interconnecting the several ecosystems of the State of São Paulo, through trails, identified by the Trails of São Paulo mark.

They are 40 trails, located in 19 Conservation Units, divided into three levels of difficulty, to serve the most diverse audiences and enable everyone to have access to the preserved areas,

paths opened by colonizers, marine environments, river rapids, waterfalls and beaches.

There are more than 200 km of trails mapped in a pocket notebook, similar to a passport, with information of the parks, maps and routes. In the passport, there is space to stamp each trail walked and the ecotourist is awarded at every achieved stage.

A passport was also created for the diving itineraries in the Marine and Island Conservation Units of São Paulo, as a way to expand the Trails of São Paulo Program. This new passport presents 8 diving itineraries in 3 Marine Conservation Units and two Island Conservation Units.

 Financial support required

SUSTAINABLE RURAL DEVELOPMENT PROJECT



RESPONSIBLE OFFICES

The Agriculture and Supply Secretariat - SAA, through the Coordinating Body of Full Technical Assistance - CATI, and Secretariat for the Environment, through the Biodiversity and Natural Resources Coordination- CBRN and Group of Work and Follow-up of Strategic Projects - GTAPE/Local Management Unit of the Project - UGL.

HOW IT HAPPENS

The Sustainable Rural Development Project – PDRS is the object of the Loan Agreement 7908/BR, signed on September 27th 2010 between the State of São Paulo and the International Bank for Reconstruction and Development - BIRD. The PDRS must be executed until September 2017. The Environmental Sustainability Subcomponent is under the responsibility of the SMA, and encompasses three categories of activities: (i) implementation of 24 (twenty-four) environmental subprojects, by means of agreements signed with associations or cooperatives of farmers and non-governmental organizations with action in the environmental area; (ii) Payments for Environmental Services; (iii) actions of environmental management and qualification in rural areas. Within the scope of this third category, activities related to the Environmental Registry System -

SiCAR/SP and to the Environmental Regularization Program - PRA are foreseen.

The Project financed by the World Bank and the Government of the State of São Paulo, aims at the promotion of the income generation of the family farmers linked to the conservation and sustainable use of the natural resources, as well as the adoption of more sustainable production models, such as the agroforest systems. It also foresees the strengthening of the organizations and support to access to the market. It counts with 25 projects, benefiting more than 500 rural families in the State of São Paulo.

GOALS

- Increasing the productivity and improving the quality of the products through best production practices;
- Providing a more active participation of the family agriculture in the productive chains;
- Strengthening the organizational and managerial capacity of the rural producers organizations;
- Integrating best practices of soil and water handling with more



Technical support to be offered



Technical support required



Financial support required

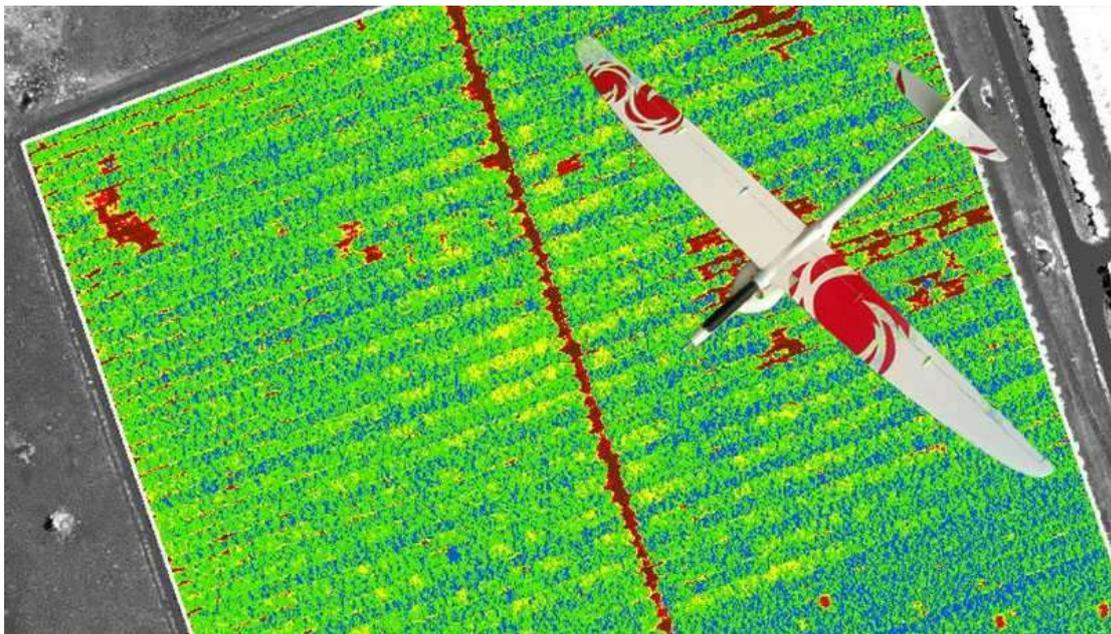
competitive and sustainable production systems;

- Increasing, therefore, the competitiveness of the family agriculture, simultaneously improving the environmental sustainability of the State of São Paulo.
- Increasing the competitiveness of family agriculture in priority areas in the State of São Paulo, simultaneously improving its environmental sustainability, besides contributing to the mitigation and/or adjustment to climate changes.

NEXT STEPS

- Qualification of the beneficiaries, SMA technicians and ATER technicians, partners of the projects;
- Study of economical-financial feasibility of the SAF projects;
- Support to the organizations in the management and access to the market;
- Monitoring of the implanted projects, especially of the SAFs.

SUPPORT AND DEVELOPMENT OF TECHNOLOGIES AND TOOLS FOR REMOTE INSPECTION (UAVs/IMAGES)



RESPONSIBLE OFFICE

Environmental Inspection Coordination-
CFA

HOW IT HAPPENS

The aerial images are avowedly important for support to research and environmental inspection. The development of remotely controlled platforms - RPAs (Remotely Piloted Aircraft System) - enables the obtention of high-resolution images with quickness and low cost, reducing the need for long and difficult hours on site,

improving the accuracy of the information and reducing the risk for the technicians and environmental police officers.

This tool, with the boarded technology, enables to aid in the identification of possible alterations or irregularities in the territory, such as deforestation and unlawful occupations of land, besides being able to conduct photographic surveys of specific polygons.

The Project of Sustainable Development of the Coast of São Paulo and the Project of Inspection of Springs, conducted in conjunction with SSRH, the

Pro-Vicinal Roads Program, besides other programmed special operations will utilize the UAVs.

GOALS

- Support and development of technologies and tools for remote inspection with the development of new technologies and procedures applied to the environmental monitoring and inspection.
- Refining and developing information systems directed towards the Environmental Monitoring and Inspection.
- Assimilating and incorporating the new remote sensing methodologies in the SMA (Secretariat for the Environment) and PAMB (Environmental Military Police).

 Technical support required

 Financial support required

NEXT STEPS

- Implementation and development of advanced monitoring systems utilizing remote sensing products obtained by RPAs and other means.
- Development of methodologies and routines of treatment and distribution of the remote sensing products applied to the environmental inspection.

SOCIO-ENVIRONMENTAL FORMATION OF CONSERVATION UNITS COUNCILS



RESPONSIBLE OFFICES

Environmental Inspection Coordination-
CFA; Environmental Education
Coordination, Forestry Foundation,
Institute of Forestry.

HOW IT HAPPENS

The Socio-Environmental Formation arises from an effort by the Environmental Inspection Coordination(CFA), articulated to other agencies of the Environmental System of São Paulo (Forestry Foundation, Institute of Forestry, Institute of Botany, Environmental Military Police and Environmental Education Coordination), to answer complex questions that involve the inspection problems. Such problems have causes of economical origin, as well as social, cultural, political, etc. Not acknowledging its existence and strong relationship with the

manifestations of the problems repressed by the inspection agents is reducing the efficacy of environmental management as a whole.

Thus, the Socio-Environmental Formation is a process of situational analysis and mapping of effects and causes of environmental problems, followed by an operational planning of conscious interventions according to the competences and attributions of social participation spaces in public environmental management, such as the Conservation Units Councils.

GOALS

- Fostering and qualifying the social participation in public environmental management;
- Involving the Conservation Units Councils with the environmental inspection;

- Developing contributions to the execution of the environmental inspection plans of Conservation Units;
- Producing knowledge to subsidize public policies of inspection, management of Conservation Units and Councils.

DYNAMICS AND FUNCTIONING

The Socio-Environmental Formation was developed from supervisory plans in execution, especially those directed to protected areas (SIM and SIMMar). Its elaboration counted with the work of a group of professionals from the agencies involved with the plans, such as the Coordinating Bodies of Inspection and Environmental Education, the Forestry Foundation, the Institute of Forestry, the Institute of Botany and the Environmental Police.

The track, composed by four distinct and sequential moments to social agents united around a participation space in public environmental management (the Councils), aims to foster the participation, as well as to qualify it through the socio-environmental formation of the ones involved:

-  Technical support to be offered
-  Technical support required
-  Financial support required

- 1) reflection and debate about the role, the competences and attributions of the social participation spaces in the public management and the sense of the participation in environmental management;
- 2) mapping of problems, their effects and causes of socio-environmental nature, as well as of social agents directly and indirectly related to the acknowledged issues in the territory;
- 3) planning of actions against the surveyed causes and construction of an agenda of the participants;
- 4) monitoring of the actions, evaluation and replanning.

NEXT STEPS

- Enhancement of the methodology based in the monitoring and evaluation of the actions in progress and already conducted;
- Follow-up of the development of the action plans in the sites where the Formation has already been conducted;
- Extension of the program to the other Conservation Units of the state.

PAYMENT FOR ENVIRONMENTAL SERVICES - PSA



RESPONSIBLE OFFICE

Biodiversity and Natural Resources

Coordination– CBRN

HOW IT HAPPENS

In the State of São Paulo, the PSA is inserted in the State Policy of Climate Changes - Law No 13.798, of November 9th 2009, regulated by Decree No 55.947, of June 24th 2010. Among the instruments of application of this Policy, it is foreseen, in its article 23, the State Program of Forest Remnants, which has the purpose of encouraging the preservation and the recovery of native forests. For the attainment of such purposes, the payment for environmental services to the conservationist rural landowners may be foreseen, as well as economic incentives to voluntary policies of

reduction of deforestation and environmental protection.

This legislation enables the Environment State Secretariat to release Resolutions to create specific PSA projects, focused on certain environmental services and geographic areas. The projects may include the following actions:

- Conservation of forest remnants;
- Recovery of riparian forests and implantation of native vegetation for the protection of springs;
- Planting of seedlings of native species and/or execution of practices that favor the natural regeneration for the formation of biodiversity corridors;
- Reforestation with native species or with native species in consortium with exotic species for the

sustainable exploration of wood and non- wood products;

- Implementation of agroforest and silvopastoral systems that contemplate the planting of, at least 50 individuals of native tree species per hectare;
- Implementation of commercial forests in adjacent areas to the remnants of native vegetation for minimization of the edge effect;
- Handling of forest remnants for control of competitor species, especially invader exotic species.

Currently, the SMA counts with the following PSA projects:

- **Produtor de Águas-PCJ;**
- **Mina D'Água;**
- **CAP-RPPN** (Environmental Credit from São Paulo for Private Reserves of the Natural Property);
- **Riparian Forest PSA;**
- **GEF Project** (Protection and Recovery of Mitigation of the Climate Changes and Biodiversity of the Atlantic Forest, in Paraíba do Sul River Basin); and
- **FAUNA** (PSA study for owners of Monitoring and Release Areas of wild fauna).

Besides that, the subject was inserted in the Município Verde Azul Program in 2014 and, in 2015, the SMA conducted a qualification for the cities, aiming to encourage the City Halls to institute their own local PSA projects.

GOALS

The government of the State of São Paulo understands that a policy of payments for environmental services may positively affect the environmental quality, as it utilizes an instrument of economic incentive to encourage several actions that favor the services naturally rendered by the ecosystems.

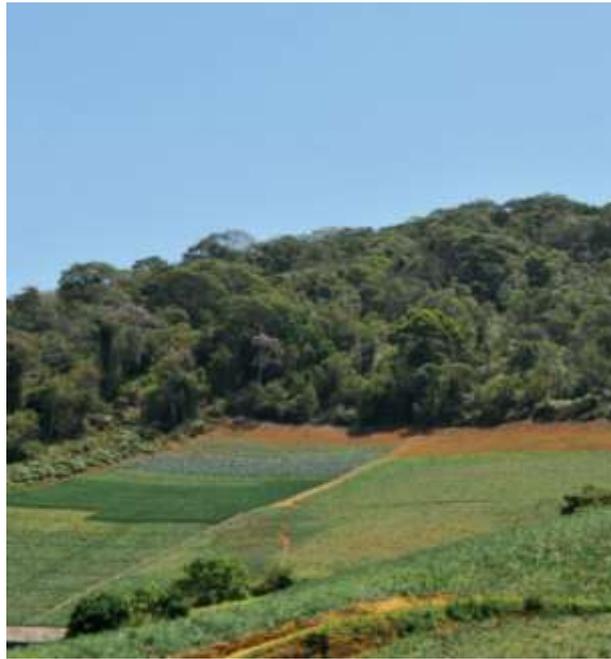
The PSA programs designed for São Paulo foresee payments upon the execution of actions that contribute to maintain or enlarge the generation of environmental services.

The utilization of the PSA as a mechanism of incentive to conservation and preservation does not intend to replace or move away the implementation of the current mechanisms of command and control, constituting an additional instrument to be added to the set of policies that the State already develops for the environment.

NEXT STEPS

For the next years, SMA intends to accomplish:

- Management and Implementation of new PSA Projects;
- Monitoring and evaluation of impact of PSA Projects in execution;
- Gain of scale with more simple institutional arrangements, and of easy execution, enabling a broad reach;
- Diagnosis to define and indicate the priority areas and which are the priority actions of the River Basins;
- Support to the city halls, so that they develop their municipal PSA programs (or regional with the CBH);
- Coordination of efforts for a better synergy among the diverse “actors” and institutions (ANA, SMA, CITY HALLS, NGOs, etc.).



CAP/RPPN PROJECT OF PAYMENT FOR ENVIRONMENTAL SERVICES TO PRIVATE RESERVES OF THE NATURAL PROPERTY - RPPNs

RESPONSIBLE OFFICES

Forestry Foundation - FF

HOW IT HAPPENS

The Environmental Credit from São Paulo to Private Reserves of the Natural Property, CAP/RPPN Project, of the Environment State Secretariat (SMA), is a pioneer public policy for the conservation of the biodiversity, through the payment for environmental services (PSA) specifically to this category of Conservation Unit (CU).

The CAP/RPPN is conducted by SMA by means of the publication of public notices, as established in SMA Resolution No 89/2013, which defines the guidelines, criteria and the calculation of the PSA. The RPPN existent in the territory of São Paulo, instituted by the Federal, State or City Public Authority, which meet the specifications in the public notices, may

participate in the project. The Forestry Foundation analyzes and selects the enrolled RPPN and conducts the monitoring of the areas, verifying the execution of the services for approval of the payments.

The owners of the selected areas sign a 5-year contract with the State Fund of Control and Prevention of Pollution – FECOP, which provides the resources for the project. The payments are made in five installments of equal value. After the execution of the services foreseen at every installment. In the last year, the owners may receive a “bonus” of 20% of the amount of the last installment, in case they prove the homologation of the RPPN as release area of the wild fauna or the approval of the Handling Plan by the competent bodies.

The 1st Public Notice of the CAP/RPPN selected 11 RPPNs, reaching a total area of 1.884,34 hectares, at a total

amount of R\$ 1.900.606,01, for the five years of contract, summing up to an average amount of R\$202,00 per hectare/year.

GOAL

It has the purposes of inducing the legal protection of the natural vegetation in priority areas of the State of São Paulo as RPPN and effecting the conservation in private lands, through the payment for environmental services rendered by owners for the conservation of their RPPN.

NEXT STEPS

The 1st installment has already been paid to all the contractors, who are now in the phase of proof of the services they have executed, for approval of the 2nd installment.

-  Technical support to be offered
-  Technical support required
-  Financial support required

PSA Amounts of the RPPN Contracted by the 1st Public Notice

RPPN	Area he	PSA 5 years	Amount/he/year
Sítio Manacá	25,08	R\$ 45.702,44	R\$ 364,45
Estância Jatobá	26,67	R\$ 43.572,31	R\$ 326,75
Meandros III	72,60	R\$ 100.362,91	R\$ 276,48
Serra do Itatins	75,08	R\$ 130.918,59	R\$ 348,74
Fazenda Renópolis	83,18	R\$ 146.349,42	R\$ 351,89
Bela Aurora	86,14	R\$ 142.085,01	R\$ 329,89
Amadeu Botelho	142,88	R\$ 200.311,16	R\$ 280,39
Meandros II	145,20	R\$ 169.483,41	R\$ 233,45
Toca da Paca	187,63	R\$ 234.958,72	R\$ 250,45
Rio dos Pilões	407,46	R\$ 339.571,92	R\$ 166,68
Pedra da Mina	632,82	R\$ 347.290,12	R\$ 109,76
Total	1884,74	R\$ 1.900.606,01	R\$ 201,68

STATE PROGRAM OF ENVIRONMENTAL CONCILIATION



RESPONSIBLE OFFICES

Environmental Inspection

Coordination- CFA

Environmental Military Police – PAMB

HOW IT HAPPENS

Until the beginning of 2014, the processing of Environmental Infringement Notices (AIA) took on average 3 (three) years between the drawing up and its conclusion, creating the following situations:

- Out of the 65.000 AIA generated in 5 (five) years (2008 to 2012), 10.000 were concluded and 55.000 not solved;
- Accumulation of demand in the units responsible for their processing;
- Low recovery of the environmental damages (nearly 15% of the cases);
- Dissatisfaction by the citizens and charged companies, which demonstrate the will to solve quickly their pending environmental matters;

- Feeling of impunity in face of the delay in the judgments;
- Inefficiency in the collection of the applied fines;
- Few locations for public service (15 in all the state).

One of the main causes observed for the accumulation of resources derives from the prevailing claim of disinformation by the charged ones regarding the environmental norms and resolutions, in face of its quantity and complexity, as well as the existent possibilities in the norms themselves, of attenuation and/or viability of the payment of fines. Such lack of information, of the duties towards the maintenance of the environmental quality and of the rights to the analysis of mitigating factors in relation to the situation of consummated notification, generated a kind of communication between the State and the defendant that was conducted in a distant manner and only as instructions in an administrative process that started at the notification, proceeded through two appeals in defense of the defendant and culminated in great part of the cases in requests for execution of the debt to the Judiciary. This process, besides taking a long processing period,

demanding reasonable contribution of energy by the Public Administration – in the analysis and judgment of such appeals – maintained the distancing and absence of dialog between the competent authorities and the citizen.

Currently, with the Program, after the infringement has been ascertained and the AIA has been entered, the defendant is notified to appear before the Environmental Service, within the deadline of 10 (ten) to 40 (forty) days, according to the stipulated scheduling.

At the Environmental Service, the infringements and applied sanctions are described and clarified, and there is the possibility of manifestation by the defendant concerning the facts and presentation of documents that prove his/her argumentations, which enables the environmental conciliation agents, after analysis, to verify the circumstances and mitigating factor, as well as the proposition of necessary conditions to correct or cease the caused degradation, as well as the other measures to conclude the administrative procedure.

For the service of the defendants, the CFA, along with the PAmb, provides more than 30 service points all over the state.

After the implementation of the Conciliation program, on June 16th 2014, more than 14.000 Environmental Services (October/2015) have been performed, with an index of 82% of attendance of defendants to the sessions that aim the conciliation. From these sessions with attendance, an average of 65% of conciliations was achieved, which are the Environmental Services that culminated in the commitment of repair of the environmental damage and/or in the submission of the payment of fine (in which the alternatives of mitigating factors and consequent discounts and the splitting in up to twelve installments enlarged the possibility of payment fulfillment).

The State Program of Environmental Conciliation aims to ensure the rights of the defendants and the fulfillment of their duties, bringing the following improvements and innovations, in general:

- It provides a space for service of the environmental violator between 10 to 40 days, on average, from the drawing up of the AIA: the Environmental Service session;
- It enables the resolution of the administrative process to be

concluded with promptness since the negotiation for the payment of the fine and the recovery of the caused environmental damages, within parameters instituted by the norms;

- It creates the opportunity to offer means of access to the information related to the environmental legislations and norms, as well as to the legal environmental attitudes.

On one hand, the public agent (environmental police officer and technician of the CFA in the same Environmental Service session) has the role of clarifying the situation, informing the seriousness (or not) of the facts registered in the infringement notice, presenting to the defendant the possibilities of complying with his/her obligations (split payment of fine, deductions for mitigating factors or accretion for aggravating factors, both with alternatives of replacement of a significant part of the amounts for commitments by the defendant: reeducate him/herself and recover the caused damage). On the other hand, the citizen charged with environmental violation has the opportunity to present arguments that may serve to mitigate

the sanctions (low education, low income, good record, etc.) and exert their right to information and knowledge concerning the implications of their act and how to avoid the reoccurrence in the environmental infringements.

GOAL

Ensuring and assuring the rights of the defendants to a conciliatory service for the fulfillment of the duties and resolution of the processes related to the Environmental Infringement Notices and for the recovery of the damages caused to the environment.

NEXT STEPS

It is recommended a greater dedication to the creation of participation mechanisms, even if indirect, which subsidize the improvement of the program, since the moment of the notification, going through the track of the Environmental Service and culminating in the evaluation of the

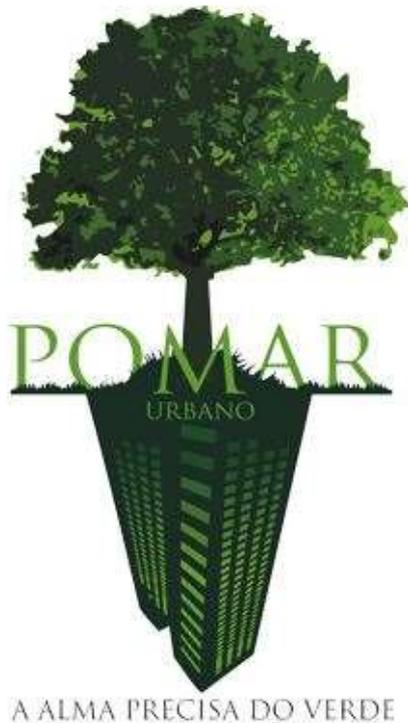
efficacy of the program as a whole. Such mechanisms may be made feasible by instruments of evaluation of the own citizens serviced by the program.

Regarding transparency, the meeting and synthetization of data and information is pertinent, to be part of the Environmental Quality Report, annually edited by the Secretariat for the Environment.

Another recommendation is directed to the investment in the actions of improvement of the spaces of Environmental Service and in the balance between the capacity to produce environmental infringement notifications and the technical analysis and management of the respective lawsuits, without prejudice to the coverage of the inspection. In other words, maintaining the presence of the inspection agents on site and, also, maintaining and enlarging the quantity of professionals who analyze, accompany and inspect the processes.

-  Technical support to be offered
-  Technical support required

URBAN ORCHARD



RESPONSIBLE OFFICE

Urban Parks Coordination – CPU

HOW IT HAPPENS

Expansion of the Urban Orchard Project to areas in riverbanks and dams in the State of São Paulo, with possibility of partnership with private companies.

The Urban Orchard is a project of environmental and landscape recovery on the banks of Rio Pinheiros, in São Paulo, started in 1999, with the application of technical knowledge of

several institutions of SMA and of other governmental bodies. It counted with financial resources of the State and of partner companies, which bore the costs for implementation and maintenance for at least one year.

The initiative transformed the landscape, stimulated the spontaneous visit and the scheduled activities of environmental education, altering the way in which the citizen related to the place before being degraded. Such changes induced the implementation of the bikeway, opened in 2010 and demonstrated the possibility of recovered urban environments to shelter leisure activities, serving to the dissemination of governmental projects and to the development of environmental education activities.

GOALS

- Promoting the environmental and landscape recovery on the riverbanks and damming-in in the State of São Paulo, even if these areas are degraded.

- Stimulate the participation of private companies as partners in the implementation and maintenance of the stretches.
- Offering technical support to expand the planting of native tree species appropriated to the local conditions, with greater biodiversity and care during the implementation to avoid environmental impacts, such as erosion and silting, predicting de proper maintenance of the implanted gardens and tree clumps.
- Proposing the binding with social welfare programs that offer opportunities of professional qualification, occupation and income for unemployed workers (such as work fronts, cooperatives, associations, etc.).
- Implementing Environmental Education programs in consonance with the recommendations of the Environmental Education Coordination - CEA.
- Organizing activities of public use and environmental education in the recovered areas, with itineraries on trails and other attractions.
- Predicting the establishment of partnerships with organizations of the civil society and with the private sector.
- Promoting activities for dissemination of good practices of planting and recovery, with support to the researches and binding with education institutions for qualification of the workers, among other programs and actions.

-  Technical support to be offered
-  Technical support required
-  Financial support required

PLANTING OF TREES IN URBAN PARKS



RESPONSIBLE OFFICE

Urban Parks Coordination – CPU

HOW IT HAPPENS

Incentive to the receiving of compensatory planting with maintenance for variable periods of 6 to 24 months inside and on the sidewalks of the urban parks managed by the CPU.

Currently, the CPU is responsible for the following Parks: in São Paulo: Dr. Fernando Costa, Alberto Löfgren, Belém “Manoel Pitta”, Candido Portinari, Guarapiranga Ecological Park,

Parque da Juventude, Urban Orchard, in Embu-Guaçu: Parque Várzea do Embu-Guaçu “Professor Aziz Ab’Saber”; in Santo André: Chácara da Baronesa; in Carapicuíba: Gabriel Chucre and Jequitibá – with areas in São Paulo, Osasco and Cotia.

Currently, there is a great demand for areas for fulfillment of Conduct Adjustment Agreement – TAC and Environmental Recovery Commitment Agreements – TCRA, and the signatories are interested in complying with such environmental demands in

easy-access, continuous and safe urban areas.

On the other hand, it is timely to the public authority to receive, without implementation and maintenance costs, new planting and enrichment of the existent woods with native species adequate to each area. This way, the biodiversity and the attractive to the public are broadened, especially because currently there is a greater variety of native seedlings with species that feed the avifauna.

GOALS

- Promoting the possibility of compensatory planting being conducted in Urban Parks, without costs to the State and with greater socio-environmental advantages.

- Broadening the biodiversity and the environmental and landscape recovery inside and on the sidewalks of these parks, with planting of native tree seedlings appropriate to the local conditions, aggregating new gardens and tree clumps to the parks, in benefit of the public.
- Organizing activities of public use and environmental education in the occasions of planting and maintenance.
- Proposing partnerships with organizations of the civil society and with the private sector to broaden the public participation in the planting and maintenance activity.
- Dissemination of these possibilities and activities.



Technical support to be offered



Technical support required



Financial support required/ services of planting and maintenance



defined in the State Decree 57.933/2012, for the elaboration of inspection programs for the legally protected areas, as well as to the definitions of State Decree 60.302/2014, which creates the System of Information and Management of Protected Areas (SIGAP).

The SIM is composed by 84 conservation units (CU), being 51 CU of the Forestry Foundation, 27 CU of the Institute of Forestry, 03 CU of the Institute of Botany and 03 CU and parks of the Urban Parks Coordination (CPU) of the SMA, encompassing an area of nearly 965 thousand ha.

The organization of the SIM is performed by means of a Manager Group; of the Regional Coordinations; and by Operational Groups.

The SIM is operationalized in each CU based on the construction of an **Action Plan of the Unit**, which is elaborated in an integrated manner between the Unit

manager, the Environmental Police command of the area and technicians of the Coordinating Body of Environmental Inspection.

The Action Plans of the CU are composed by the sectorization of the CU territory and the mapping of the problems in each one of the listed sectors. They are also characterized and analyzed by the involved entities, establishing a degree of criticality of their manifestation in the CU, which enables us to rank them for prioritization of the inspection actions.

From this survey and of the listed priorities, the Pamb and the manager Institution of the CU plan the inspection operations.

All the conducted inspection operations are registered and located spatially in the CU territory, from the geographic coordinates.

The information contemplate both the effort applied in the inspection operations, and the environmental occurrences and damages identified.

The maps resulting from this work are provided to all the ones involved, allowing them to be accessed and utilized for the conduction of a qualitative analysis of the operations

and for the systematic replanning of the inspection.

This dynamic occurs in periodic meetings that involve the participation of the involves entities, integrating more and more the efforts applies in defense and protection of the Conservation Units of the State of São Paulo.



GOALS

The SIM has the main purpose of establishing integrated actions of inspection and monitoring of the natural resources in the interior and in the protective boundary zone of the Conservation Units administered by the Government of the State of São Paulo.

Other specific goals of the SIM are:

-  Technical support to be offered
-  Technical support required
-  Financial support required

- Leveraging the preventive and repressive inspection actions in the conservation units (CU);
- Standardizing the environmental inspection procedures CU;
- Establishing a methodology for the planning, execution and tracking of the routine actions from and integrated operations;
- Systematizing the flow of operational interest information, subsidizing the consolidation of databases of the involved institutions.

NEXT STEPS

Consolidation of the Information and Databases related to the inspection in Conservation Units, from the Integrated Management System (SIGAM).

Enhancement of the operational procedures developed by each one of the involved bodies.

Definition of regional strategies to face the environmental problems that threaten the protection of the Conservation Units of the State.

INTEGRATED MARINE MONITORING SYSTEM - SIMMAR



RESPONSIBLE OFFICES

Environmental Inspection

Coordination- CFA

Environmental Military Police – PAmb

Forestry Foundation - FF

HOW IT HAPPENS

The Inshore Fishing Inspection Plan, denominated Integrated Marine Monitoring System (SIMMar), was established by the SMA Resolution 101/2013 with the purpose of systematizing the integrated action between the Environmental Inspection Coordination(CFA), the Environmental Military Police (PAmb) and the Forestry

Foundation (FF) to better assure the attributes that justify the protection of the marine biodiversity. For the functioning of the SIMMar, the Operational Managements of the South, Center and North Shore were constituted. The operational managements are formed by local action integrant of the three involved institutions (PAmb, CFA, FF) and have the function of planning and executing the inspection actions and recording the generated data.

The management system, as well as the submission and discussion of demands is exercised by a Manager Group, the

same way, constituted by representatives of the three institutions. This group has the function of making decisions and operationalizing the demands and enhancements of the inspection actions related to the fishing activity.



GOALS

- **Prevention** – Establishing and incrementing preventive measures, clarifying the population regarding the losses caused by predatory fishing, by means of educational actions and of the integration of institutions that exert actions directed towards the protection of marine biodiversity;

- Technical support required
- Financial support required

- **Inspection** – Providing adequate support for the inspection actions, ensuring that the access conditions and the management measures of the fishing resources determined in law are effectively fulfilled;
- **Monitoring** – Creating and instituting an integrated system of processing of the information, by means of managerial and technological tools, in spatial and temporal scales, in such a manner as to subsidize the integrated planning and decision making.

NEXT STEPS

Greater articulation with agencies of other government spheres with direct or indirect attributions in sea inspection, qualification of inspection agents for standardization in the operational action.

PROJECTS RELATED TO GUIDELINE 2 - REDUCTION OF THE ENVIRONMENTAL FOOTPRINT

This Guideline has the purpose of improving the management of solid waste, with focus not only on recycling and on the final disposal, but also on the sustainable production and consumption, in order to meet the National and State Policies of Solid Waste. It is subdivided into five programs:

- 1) Optimization of the Municipal Management of Solid Waste in the State of São Paulo;
- 2) State Program of Reverse Logistics;
- 3) State Program of Monitoring of the Solid Waste Management;
- 4) Program of Incentive to Sustainable Production and Conscious Consumption;
- 5) State Program of Environmental Education for Solid Waste Management.

STATE PLAN OF SOLID WASTE



RESPONSIBLE AGENCIES

Environmental Planning Coordination-
CPLA

HOW IT HAPPENS

The process of elaboration of the State Plan of Solid Waste fulfilled the minimum content foreseen in the National Policy and was conceived in the scope of the State Committee of Solid Waste Management, being concretized in the Work Group composed by technicians and specialists of the Environmental Company of the State of São Paulo (CETESB) and of the Environmental State Secretariat (SMA), with participation of other specific state agencies, under the coordination of the Environmental Planning Coordination(CPLA).

GOALS

- Supporting the municipal management of solid waste and the activities of recycling, selective collection and improvement in the final destination of the solid waste;
- Improving the environmental education for the management of solid waste;
- Establishing the Overview of the Waste, which portrays the situation of the management and administration of the solid waste in the state;
- Elaborating a Study of Regionalization and Proposal of Intermunicipal Arrangements, which has the aim of fostering the decentralization of the public policies directed towards the management of solid waste, the sharing of services and activities of common interest to the cities, and the optimization of the resources - financial, material and human;
- Effectuate the Proposal of Scenarios, which seeks the visualization of possible future

configurations for the solid waste, from generation projections;

- Defining the Guidelines, Targets and Actions, which address strategies to be adopted along ten years to assure the implementation of the State Plan, guided by the mandatoriness of adoption of the ranking in management and administration of solid waste - not generation, reduction, reuse, recycling, treatment and proper final disposal of the reject.

NEXT STEPS

The Plan foresees five guidelines and several targets to achieve its goals and establish a necessary planning for the organization and management of the solid waste in the State of São Paulo.

In strong tune and direct partnership with the municipal governments, qualification actions and implementation of the steps foreseen in the plan will be developed. Among them (for the complete list of the actions, access [\[estadual-de-residuos-solidos-esta-em-fase-de-consulta-publica/">estadual-de-residuos-solidos-esta-em-fase-de-consulta-publica/\]\(#\)\):](http://www.ambiente.sp.gov.br/cpla/2014/06/26/o-plano-</p></div><div data-bbox=)

- Raising the awareness, communication and environmental education in solid waste management through the implementation of an Environmental Education Program for the management of solid waste in the State of São Paulo, which may involve actors of the State, of the Cities and of the Civil Society in its elaboration.
- Enhancing the planning of the solid waste management, establishing the Annual Declaratory System of Solid Waste, which will be provided through the State System of Online Solid Waste Management – SIGOR.
- Implementing the State Inventory of Solid Waste, which will broaden the scope of the State Inventory of Urban Solid Waste, conducted since 1977.
- Conducting the monitoring of the quality indicators in the management of the waste, maintaining the survey of the Waste Landfill Quality Index (IQR) and of the Waste Management Index (IGR) to evaluate the effectiveness of the Plan.

-  Technical support required
-  Financial support required

PROGRAM OF ENVIRONMENTAL EDUCATION FOR SOLID WASTE MANAGEMENT



RESPONSIBLE OFFICE

Environmental Education
Coordination– CEA

HOW IT HAPPENS

The development of an Environmental Education Program for the Solid Waste Management of the State of São Paulo is one of the proposed strategies for the implementation of the State Plan of Solid Waste.

The responsibility for implementation of the Program must be shared with all the actors who are in some way involved with the problem of the solid waste and, as a consequence, with its

management. The Secretariat for the Environment assumes the fundamental role of articulating, organizing and mobilizing the different social actors for the development of a participative process for the construction of the environmental education program for the management of the solid waste.

GOALS

- Involving the actors of the State, of the cities and of the civil society with the formulation, execution, evaluation and monitoring of the program.
- Mobilizing society for the participation and the social

control of the public policies of solid waste.

- Contributing to the implementation of the state and municipal plans of solid waste.
- Strengthening and guiding the construction of educational processes and of access to information in the perspective of transformation of reality and achievement of the principles and goals of the National Policy of Solid Waste.

and the management of solid waste in the Environmental System of São Paulo.

- Conduction of sectorial meetings.
- Creation of a Work Group for the creation of the Previous Document.
- Validation of the base document in plenary.
- Public Consultations.
- Publication and disclosure of the Program.

NEXT STEPS

- Conduction of events about the environmental education theme



- Technical support required
- Financial support required

SUSTAINABLE PUBLIC PROCUREMENT



RESPONSIBLE OFFICE

Environmental Planning Coordination -
CPLA

HOW IT HAPPENS

The sustainable public hiring corresponds to a form of insertion of environmental and social criteria in the purchases and hiring performed by the Public Administration, aiming at the fulfillment of its attributions and, at the same time, the minimization of the adverse environmental and social impacts resulting from its activities.

The high purchase power of the State increases its responsibility in the adequate use of the public resources, and it must foster significant changes in

the supply chain, aiming at the adoption of socio-environmental performance standards compatible with the international agreements undertaken by Brazil. Besides that, the government, as the inductor of social and public policies, must serve as an example in this sense, that is, the institutional consumers must act in a responsible manner, taking into account their influence in the consumer market and in the economy as a whole. In this sense, the Secretariat for the Environment performs a fundamental role in the coordination of the Sustainable Public Hiring Program of the State of São Paulo, technically supporting their actions from the tool denominated Socio-Environmental Seal. This Seal is attributed to the items of the Materials and Services Catalog that envisage socio-environmental criteria, thus enabling better choices by the public buyers.

GOALS

- Fulfilling the national and state legislation related to the sustainable public hiring.
- Improving the socio-environmental criteria considered for the attribution of the Socio-Environmental Seal to the items consumed by the state bodies.
- Promoting sustainable standards of production and consumption through the state power of purchase.

 Technical support to be offered

 Technical support required

SUSTAINABLE CIVIL CONSTRUCTION



RESPONSIBLE OFFICE

Environmental Planning Coordination-
CPLA

HOW IT HAPPENS

The theme of the Sustainable Construction was foreseen in the scope of the State Policy of Climate Changes as one of the measures apt to promote sustainable standards of production, commerce and consumption, in order to reduce the demand for inputs, utilize less impacting materials and generate less waste, thus reducing the emissions of greenhouse gases.

This way, the state public authority must stimulate projects related to the sustainable housing, energy efficiency, reduction of losses, use of technical

norms that assure quality and performance of the products, use of recycled materials and alternative and renewable energy sources.

For such purpose, in 2010, the Sustainable Civil Construction Program of the State of São Paulo was established, under coordination of the Secretariat for the Environment.

GOALS

The State Program of Sustainable Civil Construction has the purposes of implementing, promoting and articulating actions and guidelines directed towards the insertion of environmental and social criteria, compatible with the sustainable development principles, in the construction works and engineering services hired by the state bodies.

The actions to be adopted for the fulfillment of the Program must focus on aspects related to: project and performance; urban development; energy efficiency; rational use of water; inputs; construction sites; waste and effluents; productive chain and social responsibility.



Technical support required

IMPLEMENTATION OF REVERSE LOGISTICS



RESPONSIBLE OFFICE

CETESB/ Vice-Presidency

HOW IT HAPPENS

As part of the responsibilities brought by the National and State Policies of Solid Waste is the implementation of reverse logistics. This approach, inspired in the extended responsibility model of the current producer in several countries, enables the collection and the restitution to the corporate sector of the solid waste generated after the consumption of certain products, for reutilization or when that is not possible, to promote the proper final destination.

In order to advance in the implementation of this strategy in the State of São Paulo, since 2010 SMA and CETESB have been conducting the dialog with the main speakers and

responsible for the structuring of systems, mainly manufacturers, importers.

With the regulation of the theme by SMA, currently the following items are object of reverse logistics: used and contaminated lubricant oil; automotive oil filters; edible oil; automotive batteries; cells and portable batteries; electronic products and components; fluorescent, solid and mercury vapor, and mixed light bulbs; unserviceable tires; home medications, expired or obsolete; and packages of: automotive lubricant oil, food, beverages, personal hygiene products, perfume and cosmetics, cleaning products and related products, and agrochemicals.

For the formalization of the systems, SMA and CETESB have been establishing, since 2012, Commitment Agreements with the representatives of the sectors. Currently, there are 12 current Agreements, which in 2014 operated more than 13 thousand collection points in the State, collecting and assuring the proper destination, preferably through recycling, to more than 350 thousand tons of post-consumption waste.

GOALS

- Offering to society a wide structure of collection / receiving, sorting, reuse or

recycling, treatment and proper disposal of the post-consumption waste;

- Transferring the onus (physical and financial) of the management of a significant part of the solid waste of the cities to the private sector;
- Increasing the recycling rates and the efficiency in the use of the natural resources of the State of São Paulo;

NEXT STEPS

- Inserting reverse logistics as a requirement in the environmental licensing;
- Reviewing and broadening the scope and the targets of the Commitment Agreements;
- Inserting other actors in the systems, mainly commerce, dealers, importers, manufacturers from other states and cities;
- Discussing possibilities of tax and fiscal adjustments that collaborate with the initiative.



- Technical support to be offered
- Technical support required

STATE SYSTEM OF ONLINE MANAGEMENT OF SOLID WASTE – SIGOR - CIVIL CONSTRUCTION MODULE



RESPONSIBLE OFFICE

CETESB/ VR

HOW IT HAPPENS

SIGOR - State System of Online Management of Solid Waste - is a tool that enables the online management since the generation of solid waste until its final destination, including the transportation and intermediate destinations, also aiding in the management of the information related to the flow of waste in the State of São Paulo.

SIGOR is the result of a public-private partnership between the Secretariat for the Environment, CETESB and SINDUSCONSP. It was instituted in 2014, through Decree No 60520/2014 and organized by modules, according to the solid waste categories foreseen in

article 6th of Law No 12.300, of March 16th 2006.

The SMA Resolution 81/2014 established the guidelines for the elaboration and implementation of the first Module, referring to civil construction waste.

The SIGOR users - Civil Construction Module are the Generators, Carriers and Destination Areas of civil construction waste (RCC), City Halls and CETESB.

The system allows the Generators to elaborate the PGR (Waste Management Plan) and after the validation of this PGR by the City Hall, the Generators request the CTR (Waste Transportation Control) to the Carriers that are registered and licensed by this City Hall. The Destination Area, licensed by CETESB, must clear this waste, when it is received, so that the flow is complete.

CETESB has the responsibility of coordinating the implementation of SIGOR in the city halls selected by the

Work Group and may follow all the internal flows of the system.

The implementation of SIGOR will occur in a gradual manner in the cities of the State of São Paulo. In 2015, the System must be implanted in nine cities and for the other ones from 2016 on, according to criteria to be defined by the work group.

GOAL

- Monitoring the waste flow since the generation until the final destination;
- Centralizing information through a database referring to the solid waste;
- Fulfilling the Legislation, specifically Resolution CONAMA 307 of July 2002 and its alterations, National Policy of Solid Waste, State Policy of Solid Waste;
- Facilitating the access to information;
- Streamlining the issuance and control of documentation / debureaucratization;
- Issuing reports with data and indicators to support public policies and investment;
- Elaborating a declaratory system and inventory of construction waste;

- Facilitating the inspection and management of the waste;
- Support the reverse logistics actions.

NEXT STEPS

- Broadening the implementation of the Civil Construction Module for the other cities of the State according to criteria established by the Work Group;
- Establishing partnerships and qualifying multiplier agents to provide a greater agility in the implementation of SIGOR in the next selected cities;
- Executing the maintenance of the System and implementing improvements, aiming at the enhancement of the System;
- Establishing partnerships for the elaboration of the Industrial Waste Module, to develop and implement this Module; and
- Developing and implementing the other Modules of SIGOR according to the solid waste categories foreseen in article 6th of Law No 12.300, of March 16th 2006.



Technical support to be offered



Technical support required

IMPLEMENTATION OF THE STATE PLAN OF SOLID WASTE IN THE URBAN PARKS



RESPONSIBLE OFFICE

Urban Parks Coordination – CPU

HOW IT HAPPENS

Improvement of the solid waste management in the parks administrated by CPU, according to the State Plan and incentive to the activities for the implementation of the State Program of Environmental Education for Solid Waste Management.

GOALS

- Improving in the urban parks the solid waste management, with actions for volume reduction, incentive to the activities of recycling, selective collection and improvement in the final destination;
- Programming new activities of awareness, communication and environmental education, developed by environmental

monitors, who already work in the public spontaneous urban parks and scheduled visits, in consonance with the guidance of the Environmental Education Coordination - CEA.

- Promoting training for employees of outsourced companies, in compliance with CEA, for qualification regarding the proper management of solid waste and the best use of the resources;
- Establishing targets and strategies for a better solid waste management, from the adoption of the principles of: non-generation, reduction, reuse, recycling,

treatment and proper final disposal of the reject.

- Constituting partnerships with companies and non-governmental organizations for the technical qualification activities of the outsourced personnel and for the recycling actions, seeking the generation of financial resources from a greater social mobilization, in benefit of the neighboring communities.
- Monitoring the results and publishing for the media and the visitors, through educational panels for easy comprehension of the public.

-  Technical support to be offered
-  Technical support required
-  Financial support required

PROJECTS RELATED TO GUIDELINE 3 - ENVIRONMENTAL VULNERABILITY AND CLIMATE CHANGES

This Guideline has the purpose of reducing the environmental vulnerabilities through the protection and recovery of springs and of the water resources, of the reduction of risk of disasters, of the mitigation of atmospheric emissions and of the territorial environmental planning. It is subdivided into 7 programs:

- 1) Adjustment to climate changes and Disaster Risk Management;
- 2) Mitigation of atmospheric emissions;
- 3) Monitoring and Inspection of the risk areas and natural disasters;
- 4) Sustainable Coast;
- 5) Forest Fire Fighting and Prevention;
- 6) Economic Ecological Zoning;
- 7) Strengthening of the management of water resources in the State of São Paulo.

SÃO PAULO STATE'S CLIMATE PROTOCOL



RESPONSIBLE OFFICE

Climate Change Advisory

HOW IT HAPPENS

Launched right before the 21st Conference of the Parties to the Convention - United Nations Climate Change Conference, the so-called “Paris COP”, the Climate Protocol of the State of São Paulo offers an opportunity to encourage the economic competitiveness and the efficiency in the use of natural resources, while mitigating the unsustainable direction of the emissions of greenhouse gases that cause global warming.

The Protocol is based on a progressive system of points, attributed to information rendered and commitments taken. For being voluntary, it offers alternatives to the adherents, which step by step may inform their emissions, methodology and scope of adopted inventories, the existence or not of data verification and validation, identified and adopted performance indicators, eventual targets of absolute or relative reduction of emissions to achieve, vulnerability indicators and adjustment measures, both planned and already in progress.

The sum of the obtained points enables to classify the adherents under an objective criterion of proactivity in relation to the climate. The Terms of Use of the Protocol respect the confidentiality of the information, which will only be disclosed in an aggregated manner, and which do not mix with the environmental licensing rules of enterprises in the State.

The Protocol is based on established platforms of emission inventories,

reinforcing in a pedagogical manner the climate metrics and the culture of public record of emissions, which will certainly be one of the unfolding of the Paris Agreement. Besides that, the identification of the best sectorial practices, allied to a better knowledge of the emissions, will enable the refinement of the public policies in the climate area, both inside the State Government jurisdiction, and through a better definition of pleas at the Federal Government.

Voluntary, the Protocol will not establish mandatory reduction targets, once this initiative must arise from the National Policy, aligned with the decisions in Paris. The initiative from São Paulo seeks to identify best practices and to help pursue them, according to sectorial capacities and needs.

With that, the Climate Protocol from São Paulo becomes a powerful inductor instrument of environmental strategies

and of competitiveness, presenting a proactive path for Brazil in the Climate Conference of Paris.

Directed towards legal entities (companies, associations, cities, local authorities and other public or private entities), the Protocol is available for adhesion online at the Secretariat for the Environment webpage (www.ambiente.sp.gov.br/spclima).

NEXT STEPS

The Climate Protocol is in the phase of seeking for research fostering lines of the so-called “*benchmarks*”, best practices of sectorial performance. Negotiations with FAPESP are in an advanced stage, in the sense of defining a system of public-private partnership, where the funding entity would cover a certain amount, the interested company would offer an equal counterpart and the universities would contribute with their premises and the work of their researchers.



Financial support required



Technical support required

INVENTORIES OF GREENHOUSE GAS EMISSIONS IN THE FEDERAL CLIMATE ARTICULATION CENTER



RESPONSIBLE OFFICE

Climate Change Advisory

HOW IT HAPPENS

The Inventory WG was created in the Federal Climate Articulation Center (NAFC), as a guiding element for the national decisions, which occur in the scope of the Inter-ministerial Committee on Climate Change (CIM). The Secretariat for the Environment of the State of São Paulo (SMA-SP), in conjunction with the Ministries of

Science, Technology and Innovation (MCTI) and of the Environment (MMA), created a Work Group to conduct Inventories of Greenhouse Gas Emissions of the Federal Climate Articulation Center. The proposal of São Paulo in the WG was to assemble a small group, not necessarily with all the states, to conduct an inventory exercise. With that, there would be considerable savings in relation to consultancy works hired by local governments. There would also be a harmonization in methodological,

geospatial and temporal terms. Having obtained these first inventories, states (and ideally also cities) could propose and conduct refinements - including records. After the first stage of harmonization of local inventories has been considered satisfactorily fulfilled, the discussion could advance in the other spheres related to public policies and climate measures within the federative scope.

The MCTI is developing the Platform of Elaboration and Dissemination of the Greenhouse Gas Inventory (PEDIGREE), which will provide the data disaggregated by states (and if possible by cities). State inventories are a pre-condition so that it is possible to discuss public policies related to the climate agenda, grounding, among others, the sectorial plans. This comprehension is justified by the fact that each state has peculiarities in

different inventoried sectors, and also by the need for more detailed and specific information to each state, which in some cases are not reflected in the National Inventory. States and cities have reduced teams and great need for qualification and exchange of information.

NEXT STEPS

Financial support for the conduction of state and city greenhouse gas inventories all over the country. Such inventories would be disaggregated at the maximum possible level (e.g. states or cities) and conducted in a centered manner (ensuring methodological consistency and temporal continuity, as well as reducing costs of fragmented biddings of consultancy services).



Technical support required

ATMOSPHERIC EMISSIONS CONTROL PLAN



Plan for Reduction of Emission from Stationary Sources - PREFE

RESPONSIBLE OFFICE

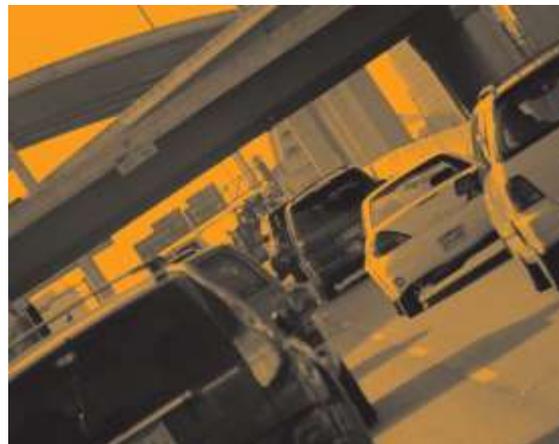
CETESB – Environmental Agency of the State of São Paulo

HOW IT HAPPENS

On April 23rd 2013, the State Decree No 59.113 was published, which established new air quality standards for the State of São Paulo.

Except for the carbon monoxide (CO) parameters, total suspended particles (TSP) and lead (Pb), the new standards were established to be met in a phased manner, in four stages, from one Intermediate Target 1 (MI1) until a Final Standard (PF).

The referred decree determines that CETESB established, according to the



Vehicle Pollution Control Plan - PCPV

validity of each air quality standard and by sub-region, an Atmospheric Emissions Control Plan, composed by a Plan for Reduction of Emission from Stationary Sources (PREFE) and by the Vehicle Pollution Control Plan (PCPV). Such plans, related to the period of 2014-2016, were presented to CONSEMA at a meeting conducted on November 18th 2014, and its full content is available at <http://ar.cetesb.sp.gov.br/plano-de-reducao-de-emissao-de-fontes-estacionarias-prefe/> and at http://veicular.cetesb.sp.gov.br/wp-content/uploads/sites/35/2013/12/Plano_de_Controlo_de_Poluicao_Veicular

_do_Estado_de_Sao_Paulo_2014-2016.pdf.

PREFE established targets of pollutant reduction by Control Region, which presented “Non-Fulfillment” to Intermediate Target 1. In the case of the mobile sources, the reduction of the emissions must accompany the actions foreseen in the PCPV, such as the adoption of the environmental inspection in vehicles, inspection, management of fleets, the incentive to preventive and qualified maintenance. Regarding the stationary sources, the achievement of the target is bound to the actions and strategies that CETESB implemented after the publication of the PREFE, including the selection of the main enterprises that participate in the Plan.

NEXT STEPS

Continue the evaluation of the obtained results with the development of the PREFE and of the PCPV and, if necessary, reevaluate the criteria and measures proposed in them, aiming at

the planning and implementation of the plans referring to 2017/2019.

Among the necessary measures for the planning of the new PCPV and PREFE, we highlight:

- 1) elaborating an Emission Inventory System (SINCET Web), with georeferenced data and registration information. Part of the elaboration of the SINCET Web counts with resources from the Diffuse Interests Fund of the Secretariat of Justice and Citizenship Defense;
- 2) improving the knowledge of the causal relations of the formation of secondary pollutants in the atmosphere of the Control Regions;
- 3) improving the knowledge of technical details that enable to reduce the uncertainties in the estimates of emissions from mobile sources, as detailed at http://veicular.cetesb.sp.gov.br/wp-content/uploads/sites/35/2013/12/Relatório-emissões-veiculares-2014_VERSÃO-DIGITAL_01.09.pdf;
- 4) broadening and improving the monitoring net of the air quality.

-  Technical support to be offered
-  Technical support required
-  Financial support required

PROJECT OF SUSTAINABLE DEVELOPMENT OF THE COAST OF SÃO PAULO



RESPONSIBLE AGENCIES

Housing Secretariat, Housing and Urban Development Company - CDHU, Secretariat for the Environment, by means of the Environmental Inspection Coordination- CFA, Environmental Planning Coordination and Local Management Unit of the Project – UGL and Forestry Foundation.

HOW IT HAPPENS

The conservation of the remnants of Atlantic Forest and of the associated coastal ecosystems depends in structural interventions that manage to solve the socio-environmental liabilities accumulated during decades of disorderly occupation. The territorial planning on sustainable bases is essential to enable the fulfillment of the increasing demand for social interest houses. The housing service and social support seeks to solve the

most urgent housing issues related to the families in risk situation. The actions, which also include the urbanization and land title regularization of the occupations of the areas around the conservation units, directly fulfill the greatest housing liabilities identified on the coast, besides delimiting urban extension spaces and consolidating the limits of the environmental preservation areas.

GOALS

- General:
Generating social benefits with the elimination of housing and environmental liabilities in socio-environmental risk areas, promoting the protection of biodiversity and of the springs on the coastal zone of the State of São Paulo, improving the social interest housing conditions and consolidating the management of the Conservation Units, extending the

socio-environmental recovery actions to the protective boundary zones.

- Specifics:

a) Supporting the institutional capacity to apply command and control instruments - territorial planning, monitoring and integrated inspection to prevent and handle potential and real environmental impacts, seeking to avoid reoccupations and/or new occupations on socio-environmental risk areas;

b) Eradicating occupations of families in high geotechnical and socio-environmental risk situation and preventing new unlawful occupations of land in the protective boundary zones of the Conservation Units;

c) Consolidating the environmental protection and recovery of the Conservation Units on the coast of São Paulo.

 Financial support required

STATE PROGRAM FOR PREVENTION OF NATURAL DISASTERS AND REDUCTION OF GEOLOGICAL RISKS



RESPONSIBLE OFFICE

Geological Institute – IG

HOW IT HAPPENS

Considering the history of disasters and accidents associated to natural phenomena, induced or potentialized by human actions, and the possibility of intensification of the magnitude and frequency of the weather events triggers of mudslides, flooding and other similar processes, the prevention of these natural disasters in the State of São Paulo contemplates stages of

reduction, management and mitigation of the existent risk situations, besides actions intended to avoid the emergence of new risk areas. For the obtention of the expected results, there is the need to articulate and optimize the existing actions among the several instances and institutions with attributions or with qualification to act in the several stages and activities necessary for the prevention of natural disasters in the State of São Paulo.

GOALS

- Promoting the updated diagnosis of the dangers and risks of mudslides, flooding, erosion and soil collapse, establishing priorities for mapping of existent risk areas in the State of São Paulo.
- Developing planning strategies for use and occupation of the soil, territorial planning and

environmental planning, in order to promote a proper occupation of the territory;

- Integrating and stimulating strategies for the monitoring and inspection in risk areas and in areas subject to geological dangers, to avoid that the areas are enlarged and that hazardous accidents occur;
- Systematizing institutional actions and operational procedures for reduction, mitigation and eradication of the risk, in tune with the ongoing policies in the scope of the State and Municipal Secretariats;
- Promoting the qualification and training of municipal teams and other agents with responsibilities in the risk management, as well as the dissemination of the information and of knowledge regarding the situations of risk to the population, increasing the perception and community participation, in search for solutions.

NEXT STEPS

- Search for partners which may help in the development of the projects and in the qualification of the involved professionals;
- Financial support for the implementation of the priority actions:
 - a) Mapping of risk areas and information managing system about risk areas in the State;
 - b) Support to the cities in the risk management of their territory;
 - c) Broadening of the range and strengthening of the civil defense preventive plans and contingency plans;
 - d) Broadening of the program of qualification and training of municipal agents;
 - e) Creation of economic incentive mechanisms intended to enable the implementation of planning actions and institutional measures;
 - f) Improvement of the institutional articulation.

 Technical support to be offered

 Technical support required

 Financial support required

CORTA FOGO - FIRE COMBAT OPERATION



RESPONSIBLE OFFICE

Environmental Inspection

Coordination- CFA

HOW IT HAPPENS

First, the conduction of an initial diagnosis occurs, contemplating the areas with greater risk of fire for the State, in order to define the areas that will be priority for the system. Subsequently, there is the subdivision of the system into four programs: prevention, monitoring, control and combat, in order to potentialized the actions to be developed. The action strategies for the four programs of the System (prevention, monitoring, control and combat) are elaborated, in conjunction, by the several government levels that compose the executive

committee, being developed from its state instances until the municipal ones, through environment councils.

GOALS

- Reducing fire sources of the State of SP;
- Reducing air pollution emissions and of GHG arising from the burnings;
- Protecting areas with vegetal coverage against fires;
- Eradicate the unlawful practice of the use of fire, respecting the provisions in Decree No 56.571.

NEXT STEPS

Search for partners that may help in the qualification of professionals; improvement of the preventive infrastructure in protected areas; in the elaboration and implementation of preventive; in the hiring of temporary fire wardens and in the enhancement of combat equipment (light and heavy vehicles, hand tools, aircrafts).

-  Technical support required
-  Financial support required

GROUNDWATER PROGRAM



RESPONSIBLE OFFICE

Geological Institute – IG

HOW IT HAPPENS

Groundwater plays a fundamental role for the public supply and the expansion of the economic activities in the State of São Paulo, mainly due to its natural quality. This utilization has been growing, due to both the commitment of the surface water by the pollution and the increasing of the water demand for several uses. However, this growth in the utilization and perspective of increase in the next years have been generating localized problems of reduction of the ground water levels by the thickening of wells and threat to the contamination of the aquifers.

State Law No 6.134, of June 2nd 1988, on the preservation and conservation of the groundwater in the State of São Paulo, and State Decree No 32.955 of February 7th 1991, which regulates it, determine the elaboration of a permanent preservation and conservation program, seeking its better utilization. The Groundwater Program aims to promote the protection of the aquifers, in order to reach some balance with the economic development and society, and to assure that the water may be controlled and utilized in satisfactory quality standards, by its current users and by future generations, throughout the territory of the State of São Paulo.

GOALS

- Subsidizing the establishment of regional guidelines, proposing strategies and actions for the management, utilization and protection of the groundwater;
- Developing researches about the aquifers and the aspects that affect their quantitative and qualitative characteristics, aiming at the deepening of the scientific knowledge and the provision of

technical bases for the management system of the water resources of the State of São Paulo.

- Producing and publishing information regarding aquifers in the State of São Paulo;
- Promoting qualification and training courses of public agents, researchers and groundwater users.



NEXT STEPS

- Search for partners which may help in the development of the projects and in the qualification of the involved professionals;
- Development of priority actions: definition of zones with greater potential of groundwater contamination by nitrate in urban areas; indication of studies for the definition of restriction areas and control of the collection and use of groundwater; allowance to cities in the implementation of the wells protection perimeters; development of new research projects;
- Consolidation of a group of institutions directed towards the joint management of surface and underground water resources, aiming at the implementation of a State Groundwater Program.

- Technical support to be offered
- Technical support required
- Financial support required

ECONOMIC ECOLOGICAL ZONING OF THE STATE OF SÃO PAULO



RESPONSIBLE OFFICE

Environmental Planning Coordination-
CPLA

HOW IT HAPPENS

The strength idea on which the ZEE is based is the need to respect the replacement time and capacity of the natural resources, which provide the base for the social and productive activities, respecting the environmental fragilities and the socio-economic capabilities.

It is a territorial planning instrument that must be enabled in participative bases, with the involvement of the secretariats and State bodies, aligned with the set of economic sectors, corporate representatives, third sector representatives, environmentalists, class organizations, universities and research institutes. The success of the ZEE depends, thus, on a wide articulation along its elaboration and

implementation process, valuing the existent collegiates.

The ZEE is based on the National Environment Policy (1981), on the Forest Code (2012), on the State Environment Policy (1997), on the State Climate Change Policy (2009) and on Federal Decree 4.297/2002.

The methodology under elaboration seeks to construct an instrument that complies with the norms and legal principles, as well as the guidelines of the Ministry of the Environment. It has an innovative and creative character towards the complexity of the State of São Paulo. The traditional correlation and study of the indicators of the environmental, social, demographic, economical and infrastructure indicators, will be added strategic issues that are imposed to the development of the State. These propositional scenarios will be based on the historical evolution of these indicators, on the trend scenarios, on the guidelines of the several sectorial policies and on the wishes of society, and will indicate the parameters to

mark and re-guide the sectorial policies and the public and private investments. The ZEE will count with monitoring mechanisms of its implementation, by means of strategic indicators, which enable the analysis of socio-economic and environmental tendencies, which may collaborate in its updating process. The studies and surveys conducted or that are in process of elaboration consist in: "ZEE Seminar - base for the sustainable development of the State of São Paulo" (2011); "Diagnosis for the Economic Ecological Zoning of the State of São Paulo" (2013); Hiring of consultancy for the analysis of the environmental dimension of the ZEE, which established guidelines for the inter-relation of natural infrastructure data; Round of meetings with technicians responsible for the generation of environmental data, which enabled the identification of the essential data for the environmental characterization of the State; Studies for the construction of the basic units of territory analysis - UTBs, which will enable the accurate specialization of indicators and the monitoring of the reach of the goals and targets of the ZEE; Institutional, sectorial and civil society mapping.

GOALS

- Establishing territorial planning guidelines, considering the environmental characteristics and the socio-economic dynamics of the different regions of the state;
- Guiding the formulation of sectorial policies and the public and private investments in consonance with the strategic purposes of sustainable development;
- Subsidizing the environmental licensing of productive activities, according to the environmental fragilities and the socio-economic capabilities.

NEXT STEPS

- Survey of Sectorial Public Policies with territorial repercussion;
- Identification of the environmental, socio-economic, demographic and infrastructure indicators, essential for the construction of the ZEE proposal;
- Benchmarking of national and international experiences;
- Installation of the State Manager Group;
- Society mobilization: environmentalists, businesspeople, cities, class representatives;
- Elaboration of the ZEE Bill;

- Adequacy of the Proposal according to the discussions in the social participation forums;

- Public Hearings; ZEE Approval; ZEE Monitoring - in a continuous process.

 Technical support to be offered

 Technical support required

 Financial support required

STRENGTHENING OF THE MANAGEMENT OF WATER RESOURCES IN THE STATE OF SÃO PAULO



RESPONSIBLE OFFICES

Environmental Planning Coordination-
CPLA; Environmental Inspection
Coordination- CFA; Environmental
Education Coordination - CEA;
Environmental Agency of the State of
São Paulo - CETESB; Geological Institute
– IG.

HOW IT HAPPENS

The State Policy of Water Resources
has the purpose of assuring that the
water, natural resource essential to life,
to the economic development and to

the social well-being, may be controlled
and utilized in satisfactory quality
standards, by its current users and by
future generations, throughout the
territory of the State of São Paulo.

For such purpose, the Integrated
System of Water Resource
Management was created, and 22
Water Resource Management Units are
defined, which count with Water Basin
Committees, of deliberative character,
composed in a tripartite manner per
State, cities and civil society. The
Environmental State Secretariat is one
of the managing bodies of the System,

in conjunction with the Sanitation and Water Resources Secretariat, CETESB and Water and Electric Power Department (DAEE).

GOAL

Promoting the integrated management of the water resources, especially in the springs of the State of São Paulo, from the development of tools, instruments and strategic actions.

NEXT STEPS

- Developing and implementing the defined instruments for the protection and recovery of springs of regional interest for public supply;
- Development and Environmental Protection Plan – PDPA for the springs

of the Metropolitan Region of São Paulo;

- Specific Laws for the springs of Cotia, Guaió, Alto Juquiá, Jaguari;
- Integrated Inspection in the instituted areas of protection and recovery of springs (APRM);
- Broadening and intensification of the monitoring of the quality and quantity of surface and underground water in the State of São Paulo;
- Indication and provision of priority studies for the definition of restriction areas and control of the collection and use of groundwater;
- Conduction of Environmental Education actions for the sustainable use of water.

-  Technical support to be offered
-  Technical support required
-  Financial support required

REGIONAL CENTER FOR TECHNICAL ASSISTANCE AND TECHNOLOGY TRANSFERENCE IN THE SCOPE OF THE STOCKHOLM CONVENTION ON PERSISTENT ORGANIC POLLUTANTS FOR THE COUNTRIES OF LATIN AMERICA AND THE CARIBBEAN REGION

RESPONSIBLE OFFICE

Environmental Agency of the State of São Paulo – CETESB

HOW IT HAPPENS

The Stockholm Convention on Persistent Organic Pollutants (POPs) has the purpose of protecting human health and the environment from the adverse effects of these synthetic organic chemical substances - POPs, which are: persistent in the environment, transported to long distances, bio-accumulated in the fat tissue and possess highly toxic properties.

Since the year 2009, CETESB has been endorsed as a Regional Center, with the excellence standard, to strengthen the countries' capacities in the

implementation of the elimination measures, reduction of the use, production of the POPs and their stocks and residues, dictated by the Convention. The action of the

Regional Centers was enlarged for other Conventions, namely: Basileia Convention on the Control of Transboundary Movements of Hazardous Waste and its Deposit, Rotterdam Convention on the Procedure of Informed Prior Consent for the International Commerce of Certain Chemical Substances and Hazardous Agrochemicals, and Minamata Convention on Mercury (Hg). The Brazilian government appointed CETESB, due to its expertise accumulated in these last 45 years in the environmental area,

to exert the international term of Regional Center at the Convention and the United Nations, with the mission of rendering technical assistance, qualification and technology transference to the countries of Latin America and the Caribbean Region (GRULAC), with extension to the countries of the Community of Portuguese Speaking Countries (CPLP) in Africa.

CETESB, in the position of Regional Center, has been supporting the Brazilian states and the countries through the actions described below:

I. Action: Technical Qualification and Technology Transference.

Goal: Rendering technical assistance on the management of chemical substances and their waste, especially POPs and Mercury, with long and short duration trainings, for decision makers, managers, as well as collection sampling and environmental analyses technicians.

II. Action: Developing and implementing pilot projects for the environmental management of chemical substances of the Stockholm, Basileia, Rotterdam and Minamata Conventions.

Goals: Developing a management model for POPs and Hg in the State of São Paulo, and spreading to the Brazilian

states and to the countries of GRULAC and CPLP.

III. Action – Implementation of the Stockholm Convention in Brazil.

Goal: Supporting the implementation of the priority actions of the National Implementation Plan (NIP) of Brazil.

IV. Action – Strengthening the institutional, technical and legal capacity in the GRULAC region.

V. Action – Technical Cooperation with other Regional Centers and countries.

Goal: Increasing the synergy between the excellence centers.



1. Technical support to be offered

- Collaboration in the strengthening and construction of the institutional, technical and legal capacity in the GRULAC region;
- Strengthening the legal and administrative procedures for the management of chemical substances, especially those listed by the Stockholm, Basileia, Rotterdam and Minamata Conventions;
- Creation and operationalization of an environmental laboratory;
- Qualification and training of personnel for the development of technical services;

- Creation of technical capability to ensure the monitoring and environmental control of POPs and mercury for the means, air, water and soil;
- Update of the specific environmental legislation, including regulations and norms regarding environmental quality standards, of effluent emission;
- Constructing the capacity for management of hazardous waste;
- Subjects associated to the research and exploration of hydrocarbon and procedures for chemical emergency response, especially hydrocarbon spillages;
- Constructing the capacity for management of contaminated areas;
- Strengthening the regulatory capacity, as well as of legislation and institutional policies;
- Developing and implementing inventory, reduction of emissions and management of PCBs;
- Constructing capacity to reduce the PCDD/F emissions;
- Developing and implementing inventory, PCDD/F emissions;

- Promoting the implementation of the BAT/BEP technology.



2. Technical support required

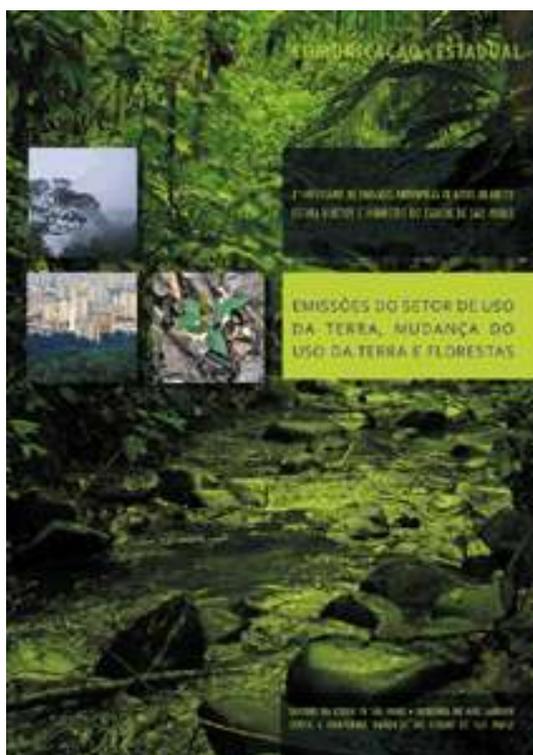
- Collaboration in the data collection area, aiming at a Global Monitoring Plan on POPs;
- Waste Management containing POPs, especially Electronic waste, vehicles, moveable goods,
- Management of New POPs;
- Formation of an inter-laboratorial network;
- GHS (Globally Harmonized System), hazards to health, environmental hazards, physical hazards, labels and Chemical Security Sheets;
- Tools to reduce the chemical substances hazard;
- Hazard assessment in combination to the assessment of the exposure utilized in the chemical substances hazard assessment.



3. Financial support required

- Elaboration of publications for promotion;
- Training and educational activities;
- Awareness regarding the management of chemical substances.

INVENTORY OF ANTHROPIC EMISSIONS AND REMOVALS OF THE LAND USE SECTOR, CHANGES IN THE USE OF LAND AND FORESTS OF THE STATE OF SÃO PAULO



RESPONSIBLE AGENCIES

Local Management Unit of the Sustainable Rural Development Project - Micro basins 2 (PDRS) of the CBRN and Climate Change Division of CETESB.

HOW IT HAPPENS

The coordination and elaboration of the greenhouse gases inventory, which include estimates of the annual liquid anthropic average emission of

greenhouse gases (GHG) and the follow-up of the monitoring of vulnerabilities, implementation of adjustment measures, among others, are attributions of the Climate Change Program of the State of São Paulo (PROCLIMA), as foreseen in State Law 13.798 of 2009, which defines the State Policy of Climate Changes (PEMC).

The Inventory of Anthropic Emissions and Removals of the Land Use Sector, Changes in the Use of Land and Forests, has already been conducted in two stages, the first one for the period from 1994 to 2008, and the second one for the period from 2008 to 2011. It was conducted thanks to a partnership with the Management Unit of the Sustainable Rural Development Project of the Secretariat for the Environment, which counts with resources from the World Bank. The term for elaboration of the third stage, for the period from 2011 to 2014, is being developed. For

this study, the Space Science, Applications and Technology Foundation (FUNCATE) was hired, for the analysis of the satellite images and data analysis, which supported CETESB in the first stage of this project, which counted with the support of the British Embassy.

NEXT STEPS

The organization for the fourth work stage for the period from 2014 to 2017 can already be started, with the definition of partnership(s) for the obtention of resources, definition of this reference term for the development of the work, review of the methodology adopted in the three previous stages of elaboration of this sectorial inventory, conducted according to the IPCC guidelines, beginning of the preliminary collection

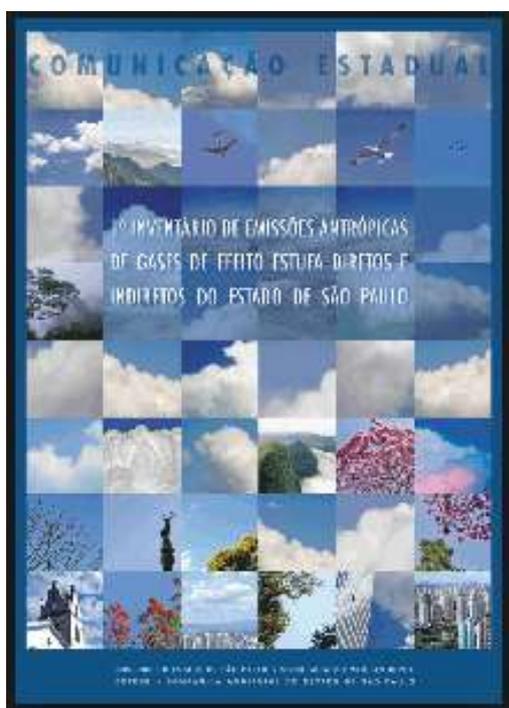
of the most recent data and satellite images, verification and follow-up of the hot spots in terms of deforestation in the state, and of the hot spots of the state in terms of vegetation gains and consequent removal of GHG from the atmosphere, indicated during the period from 2008 to 2011.

Definition of the institutional framework for the execution of this new stage, with the analysis of the possibility of inclusion of new partners for follow-up of this development.

Definition of a joint qualification program between the involved institutions for the elaboration of this fourth stage of the inventory, to enable a qualification program, so that the other states and cities are qualified for the conduction of similar studies.

-  Financial support required
-  Technical support to be offered

IMPROVEMENT OF A PLATFORM FOR SUBMISSION OF GREENHOUSE GAS INVENTORIES FOR THE STATE OF SÃO PAULO



RESPONSIBLE OFFICE

CETESB Vice Presidency

HOW IT HAPPENS

CETESB instituted, for the Board of Directors Decision (D.D.) 254 of 2012 in the scope of the State of São Paulo, the Greenhouse Gas (GHG) Emission Inventory by enterprises and regulated the criteria for the elaboration of the Greenhouse Gas Emission Inventory in

the State of São Paulo. For the purposes of follow-up of the quantitative evolution of emissions and of the result of measures of mitigation and absorption of greenhouse gases, a list was defined by the referred D.D. with 28 activities and/or industry sectors that must submit to CETESB its GHG inventory, namely: I. Aluminum production;

II. Cement production;

III. Coke plant; IV. Metallic minerals sintering premises;

V. Pig iron or steel production premises with capacity exceeding to 22.000t/year; VI. Ferrous metal foundries with a production capacity exceeding 7.500t/year;

Glass production premises, including the ones intended to the production glass fiber, with production capacity exceeding 7.500 t/year; Petrochemical industry; IX. Petroleum

refineries; X.

Ammonia production;

XI. Adipic acid production;

XII. Carbon black production;

XIII. Ethylene production;

XIV. Silicon carbide production;

XV. Calcium carbide production;

XVI. Caustic soda production;

XVII. Methanol production;

XVIII. Dichloroethane (EDC) production;

XIX. Vinyl chloride (VCM) production;

XX. Ethylene oxide production;

XXI. Acrylonitrile production;

XXII. Phosphoric acid production;

XXIII. Nitric acid production;

XXIV. Thermoelectric plants fueled by fossil fuels; Paper and cellulose industry with utilization of limekilns; Lime production;

XXVII. Other premises with fossil fuel consumption that emit a quantity exceeding 20.000 t/year of equivalent CO₂;

XXVIII. Premises that emit the gases HFCs, PFCs, SF₆ in a quantity exceeding 20.000 t/year of equivalent CO₂. CETESB has already received inventories related to the years of 2012, 2013, and 2014 (in progress). This initiative was developed according to the guidelines contained in norm ABNT NBR ISO 14.064 -1 - Greenhouse Gases,

and it is a pioneer initiative. Besides that, it is important to highlight that all the information was inserted in the online system by the companies themselves, of their total responsibility, and that the vast majority of the presented inventories respected the functionality and structure of submission of information, as requested. Information regarding the emission of GHG controlled by the Kyoto Protocol was received, namely: methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, and controlled by the Montreal Protocol, chlorofluorocarbons and hydrochlorofluorocarbons.

The analysis of the information collected in the inventories of enterprises (base year 2012) revealed that improvements may be applied for the collection of future information, especially regarding the structure of the digital form to improve the sorting and classification of the inventories by categories or sectors, among other possibilities.

With the formation of a historical series that started with the inventories of the year 2012, it will be possible to obtain more sturdy information, as well as to

survey initial reference data about the values of CO₂ emission per product in the several segments of the industry from São Paulo, in order to support the development of strategies for the approach in the issue of climate changes and management of emissions, strengthening the fulfillment of the activities instituted by the State Policy of Climate Changes (PEMC) for the management of the GHG and the implementation of the public record of emissions in the state.

The digital system created for this purpose is very limited and does not allow enlargements; inclusion of new gases for follow-up, enterprise with federal licensing and state monitoring, of the possibility of direct management of the information; simplified opening of real-time correction phase of the submitted data; calculation of the equivalence of the gases; connection of information to broaden the possibilities

and facilitate the analyses; facilitated issuing of sectorial emission lists for several years of inventory submission; facilitated submission of voluntary inventory, for companies that do not possess licensing from CETESB, and which do not conduct industrial activities; among other possibilities.

NEXT STEPS

Construction, testing and operation of the new system. Information interchange with entities that have a similar project.

Financial support for the construction of a digital system that incorporates the already collected information and enables the previously described enlargements, which significantly broadens the information collection and their management.

 Financial support required

SELF-SUSTAINABILITY OF THE URBAN PARKS WITH PHOTOVOLTAIC ENERGY GENERATION



RESPONSIBLE OFFICE

Urban Parks Coordination – CPU

HOW IT HAPPENS

Implementation of plants for energy generation from renewable sources, especially photovoltaic panels to achieve the self-sustainability of the urban parks.

GOALS

- Implementing plants with photovoltaic panels for energy generation in the urban parks, for internal use and supply in the network, generating self-sustainability of the urban parks;

- Publishing the possibility of energy generation from renewable sources in activities of awareness, communication and environmental education, developed by environmental monitors, who already work in the public spontaneous urban parks and scheduled visits, in consonance with the guidance of the Environmental Education Coordination - CEA.
- Improving the energy efficiency of the parks, with adequacy of lighting systems and use of low-consumption equipment.
- Publishing the possibilities of use of energy from renewable sources, through educational panels for easy comprehension of the public.

- Technical support required
- Financial support required

RATIONAL USE OF THE WATER RESOURCES IN THE URBAN PARKS



RESPONSIBLE OFFICE

Urban Parks Coordination – CPU

HOW IT HAPPENS

Monitoring and reduction of the consumption of treated water in the parks, employing water collection systems in springs, streams and damming-ins, and installing rainwater collection and reservation systems for use in irrigation, floor washing and hygiene of urinals and toilets.

Implementation of a Program of Rational Use of Water with monitoring of the consumption and replacement of faucets and other hydraulic equipment for similar low-consumption ones.

-  Technical support required
-  Financial support required

GOALS

- Implementing in the following parks: Dr. Fernando Costa, Alberto Loefgren, Ecological of Guarapiranga, Jequitibá, Juventude and Várzea do Embu-Guaçu Professor Aziz Ab'Saber, equipment to collect water in the rivers, streams and damming-ins for use in irrigation, floor washing and hygiene of urinals and toilets.
- Implementing rainwater collection and reservation systems for the previously mentioned uses.
- Replacement of faucets and other hydraulic equipment for similar low-consumption ones.
- Publishing the importance of the reduction of consumption in socio-environmental activities and ludic panels for easy comprehension, in consonance with the guidelines of the Environmental Education Coordination - CEA.

PROJECTS RELATED TO GUIDELINE 4 - MANAGEMENT AND CONSERVATION OF THE WILD FAUNA

This Guideline has the purpose of contributing to the integrated conservation (*in situ* and *ex situ*) and to the sustainable handling and use of the wild fauna in the State of São Paulo, through the enhancement of normative instruments, of management and of the institution of a state public policy for the conservation of wild fauna.

It contains the Program of Integrated Management and Conservation of the Wild Fauna. Through this program, the Guideline approaches several wild fauna themes, as it may be observed through the presented projects.

STATE PROGRAM OF DESTINATION AND COMBAT TO WILD ANIMALS TRAFFICKING



RESPONSIBLE OFFICE

Environmental Inspection
Coordination- CFA

HOW IT HAPPENS

In order to broaden the protection of the fauna and strengthen actions that combat wild animals trafficking, SMA (Secretariat for the Environment) and SSP (Public Security Secretariat) develop strategies based on prevention, management and combat subprograms, being the activities organized by the management committee, composed by the integration of different governmental bodies.

GOALS

- Reducing the number of animals withdrawn from nature;
- Restraining practices of hunting, catching, unlawful possession and wild animals trafficking;
- Promoting the broadening of the structure of reception, sorting, rehabilitation and destination of wild animals;
- Integrating the bodies of the State of São Paulo and of other States, in order to improve joint efforts;
- Establishing an interinstitutional information flow and consolidated database between management of fauna and inspection actions;
- Promoting preventive and educational actions, aiming at the sensitization of the community regarding the theme.

NEXT STEPS

Publication of a norm that institutes the program and approval of the work plan.

- Technical support to be offered
- Technical support required
- Financial support required

WILD ANIMALS SORTING CENTER – CETAS



RESPONSIBLE OFFICES

Biodiversity and Natural Resources
Coordination– CBRN
Fauna Department - DEFAU

HOW IT HAPPENS

Wild Animals Sorting Centers and Wild Animals Rehabilitation Centers are legal entity enterprises, duly authorized by the environmental agency with the purpose of receiving, identifying, sorting, marking, evaluating, recovering, maintaining and rehabilitation native wild fauna specimens derived from the inspection, rescue or voluntary surrender action.

The wild animals Sorting/ Rehabilitation Centers must meet some requirements regarding the installations, equipment,

safety, quarantine, feeding, nutritional and safety care, and provide qualified technical teams to service the animals related to the veterinary medical and biological care of each species. The CETAS and CRAS existent in the State of São Paulo are located, in their great majority, in the East region and on the coast, having the need for implementation of these enterprises in the other regions to the North, West and Center of the State, cities distant from the capital city and next to wild animals trafficking routes, primarily and initially in the administrative regions (NRPPs) of São José do Rio Preto, Araçatuba, Presidente Prudente, Bauru, and Registro.

reintroduction in the natural environment.

GOALS

Adequately allocating the animals received by seizure, rescue or voluntary surrender to the CETAS and CRAS, avoiding that irregular animals arising from trafficking remain with the violator for lack of a proper location to receive them. Promoting the repatriation of wild animals originated from other states. Integrating the received animals to programs of

NEXT STEPS

Allocating resources to build, implement and maintain CETAS/CRAS in the State of São Paulo in the administrative units of the above-mentioned regionals.



-  Technical support to be offered
-  Technical support required
-  Financial support required

STATE PUBLIC POLICY FOR WILD FAUNA CONSERVATION

RESPONSIBLE OFFICES

Biodiversity and Natural Resources

Coordination– CBRN

Fauna Department - DEFAU

HOW IT HAPPENS

The State of São Paulo does not count with a specific state policy for the conservation of wild fauna, being that the management activities follow the current state or federal norms related to the theme.

The current management has, among others, the target to institute a State Public Policy for Conservation of Wild Fauna in the State of São Paulo, establishing principles, definitions, criteria and instruments of management that guide the conservation of wild fauna.

GOALS

Publication of a norm instituting the State Policy for Conservation of Native Wild Fauna in the State of São Paulo.

NEXT STEPS

- Starting the works with an internal team for the elaboration of the guidelines of minutes of the Policy, contemplating the following main stages:
- Survey and analysis of existent legislation and public policies related to the conservation of wild fauna in the ESP, in Brazil and in other countries.
- Identification of the problems related to the conservation of wild fauna in the State of São Paulo.
- Workshops with external guests, such as professionals of institutions with acknowledged technical capability in the wild fauna theme.

-  Technical support to be offered
-  Technical support required
-  Financial support required

ACTION PLAN

PRO-PRIMATES FROM SÃO PAULO



RESPONSIBLE OFFICES

São Paulo Permanent Pro-primates
Commission

HOW IT HAPPENS

In June 2014, the government of the State of São Paulo declared the black lion tamarin (*Leontopithecus chrysopygus*) as Environmental Property of the State, animal symbol of the conservation, determining to all the

bodies of the state public administration, the development of the efforts necessary to the protection and recovery of this species in nature. Aiming at protecting all the primates that live in the territory of São Paulo, the Permanent Committee of Protection of the Native Primates of the State of São Paulo - Pro-primates from São Paulo, which elaborated its Action Plan.

Species of primates that naturally occur in the territory of São Paulo

Species	IUCN (2008)	Brazil (2014)	São Paulo (2014)
<i>Brachyteles arachnoides</i>	EM	EM	EM
<i>Leontopithecus chrysopygus</i>	EM	EM	EM
<i>Leontopithecus caissara</i>	CR	EM	CR
<i>Callithrix aurita</i>	VU	EM	EM
<i>Callithrix penicillata</i>	LC	-	LC
<i>Alouatta caraya</i>	LC	-	VU
<i>Alouatta guariba clamitans</i>	LC	VU	VU
<i>Callicebus nigrifrons</i>	NT	-	NT
<i>Sapajus nigrurus</i>	NT	-	NT
<i>Sapajus libidinosus</i>	LC	-	DD

EM: Threatened, LC: Little worrying, CR: Critically threatened, NT: Almost threatened, VU:

Vulnerable, DD: Insufficient Data.

GENERAL GOALS

- Promoting the scientific knowledge, the conservation and population sustainability of the species;
- Formulating strategies and actions of recovery and combat to the threats;
- Proposing solutions for the main direct and indirect issues that threaten these animals.

SPECIFIC GOALS

- Raise data concerning the species;
- Characterize the population parameters, the geographic distribution and the current conservation state of the wild populations of each one of the species,

in order to subsidize the conservationist decision making and the mitigation of the identified threats to the primates throughout the state of São Paulo.



NEXT STEPS

- 1) Execution and implementation of the main projects foreseen in the Action Plan:

- BLACK LION TAMARIN I - “Conservation of the Black Lion Tamarin in Fragmented Landscapes”;
- BLACK LION TAMARIN II – “Program for Integrated Conservation of the Black Lion Tamarin”
- MURIQUI – “Muriquis from São Paulo: Demographic parameters, geographic distribution and conservation of the Southern Muriqui in the state of São Paulo”;
- BARREIRO RICO FARM – “Research and Conservation of Southern Muriqui in Barreiro Rico”;
- PONTAL DO PARANAPANEMA – “Strategy for Conservation of the Extreme West of São Paulo”;
- CONSERVATION OF *CALLITHRIX AURITA*- “Conservation of the Buffy

Tufted-Ear Marmoset in the Territory of São Paulo”;

- ENVIRONMENTAL EDUCATION and Social Involvement.

2) Elaboration of the following Work Plans:

- Program of Handling in Captivity;
- Emergency Response Plan;
- Database: Wild Populations Occurrence Areas;
- Integrated Supervisory Action;
- Program for Funding of Financial Resources;

3) Update of the Action Plan *in progress*.

-  Technical support to be offered
-  Technical support required
-  Financial support required

PROJECTS RELATED TO GUIDELINE 5 - ENVIRONMENTAL LICENSING

This Guideline has the purpose of improving the effectiveness of the environmental licensing system of São Paulo, having as premises the creation, the improvement and the implementation of new assessment tools, in order to simplify the reduce the deadlines for analysis of the licensing requests, without damaging the environment and improving the institutional relations with the bodies that participate in the environmental licensing, being highlighted the Scenarios Room Project, presented below.

SCENARIOS ROOM



RESPONSIBLE OFFICE

Environmental Impact Assessment Board of Directors - Board of Directors I of CETESB.

HOW IT HAPPENS

Environmental licensing in the State of São Paulo of enterprises and activities that utilize environmental resources considered effective or potentially pollutant, or of those that, under any form, may cause environmental degradation, is conducted by CETESB, more specifically in the scope of the Environmental Impact Assessment Board of Directors - Board of Directors I. In this list of enterprises and activities, we may, briefly, highlight: transportation projects, transmission lines, ducts, dredging, hydroelectric plants, land subdivision, agribusiness and mining activities.

For such licensing, complex environmental studies and technical

opinions are elaborated, which demand a wide range of information related to the potential interferences and interactions of the proposed project with the natural environment and constructed where it will be inserted. Bulky administrative processes are generated in paper, containing relevant information regarding the affected environment and the analyzed project. It is a valuable source of information and documents, but of difficult access and recovery for the own technical team, for the managerial body and other actors involved in the licensing process.

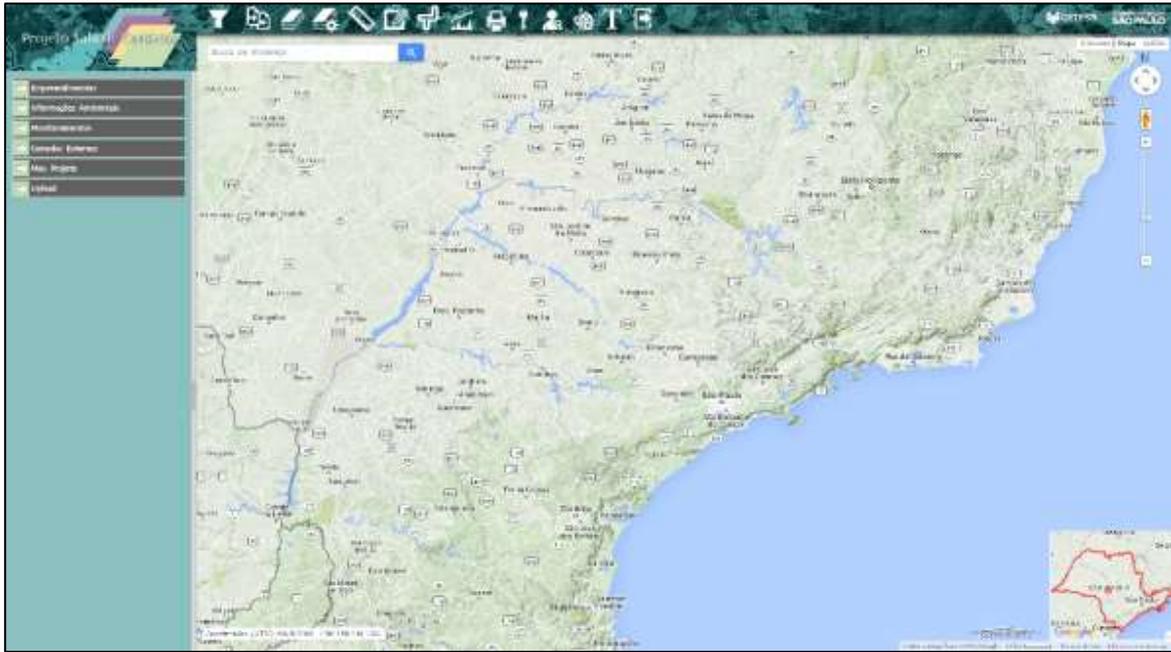
With the purpose of facilitating the access to this information, in order to enable a more agile and comprehensive environmental assessment, besides utilizing the acquired knowledge in previous processes to future licensing and other environmental management activities, the creation of the Scenarios

Room Project was proposed at CETESB. The Project encompasses one GEO Solution and one DOC Solution, besides modeling.

The GEO Solution, which has already been initiated, basically comprises the development of a Geoportal, utilizing the Google platform, which enables web based access to information organized and stored in cloud. At the Geoportal, the polygons of the enterprises are presented, associated to the relevant information about them, including registration information, such as:

- Managerial Data: process number, licenses number and date, etc.;
- Characteristics of the Enterprises: technical characteristics of the licensed projects;
- Environmental Impact Indicators: indicators (including parameters such as: vegetation suppression area, number of expropriations/relocations, water consumption, etc.);
- Monitoring: monitoring data obtained in the licensing processes (regarding the quality of the water, fauna flora, archaeology, etc.).

The Geoportal also counts with several support tools to the environmental analysis, such as the ones that enable to perform measurements; drawing/sketch; buffer; ground profile; creation of subtitle and printing of the works. Especially, for support to the technicians' analysis, a functionality denominated My Project was created at the Geoportal. This functionality allows each user to conduct their private evaluations, from a drawing of a project performed by the technician or from the upload of a *shapefile* or *kmz/kml* file. The project to be analyzed may be superimposed to several layers of interest, to the use of the data of similar enterprises or of the neighboring area, and the employment of support tools, etc., allowing to save and print the conducted analysis work. The instrument has already been utilized by a group of technicians of the Environmental System of São Paulo, through web-based access (CETESB intranet) of the available information and resources. This access enhances the discussions of the projects and enterprises in the working environment (in the scope of CETESB or SMA).



GOALS

- Offering a modern tool to facilitate and streamline the evaluation work of impacts of the great enterprises.
- Providing, in an organized and facilitated manner, the information contained in the environmental licensing processes, offering to the technical body greater knowledge regarding the conditions and the natural processes that occur at the enterprise sites, facilitating the decision making and minimizing the request of new studies (sometimes redundant);
- Offering tools and environmental impact indicators that enable to improve the assessment and the management of the licensing processes, such as: the preliminary

- assessment of the impacts of a new enterprise; assessment of the significance of the impacts of an enterprise; assessment of the impacts of the neighboring area; assessment of the effectiveness of the licensing; and management of the progress of the processes;
- Providing tools to support the work of other interlocutors in the environmental licensing, with the Forestry Foundation, Coordinating Body of Environmental Planning, Fauna Management, Water Quality Management, etc.
- Creating a common base for environmental analysis, facilitating the communication and the generation of a consensus among several stakeholders in the licensing process.

NEXT STEPS

- Improving and continuing the execution of the ongoing Project;
- Expanding the Project, incorporating new technical contents and functionalities to the Project, especially seeking to automatize the portal feeding and to connect it to the several environmental data management systems;
- Seeking to reach new users, with different levels of access permission;
- Implementing the DOC Solution - Content Management, aiming at

dematerializing and indexing the information from the environmental licensing processes, in order to facilitate the access to the whole content (studies, documents, maps, etc.) existent in the Board of Directors I, and organizing the data file in an intelligent manner for reception of new information;

- Implementing simplified modeling solutions, to enable more dynamic evaluations of the impacts of future enterprises.

-  Technical support to be offered
-  Technical support required
-  Financial support required

INFRASTRUCTURE PROJECTS

Besides the projects that are directly related to the Guidelines, there are some projects of the Environmental System of São Paulo that involve the infrastructure change of physical spaces, aiming at a greater adequacy to the developed activities and a better utilization of the available resources.

Below, we list some projects that include: space revitalization, accessibility adjustments, improvement in the storage and conservation conditions, elaboration of a new museography, among others.

PROJECT OF REVITALIZATION OF THE INSTITUTE OF FORESTRY PHYSICAL SPACE



Headquarters of the Institute of Forestry in São Paulo (on the left). Building and entrance hall Octávio Vecchi Forest Museum. Painting from 1930 performed by Antônio Paim (on the right)



Museum, library and auditorium of the Institute of Forestry.

RESPONSIBLE OFFICE

Institute of Forestry – IF

HOW IT HAPPENS

The project consists in the modernization and computerization of the institutional Library, in the acoustic readjustment and improvements of the Auditorium and revitalization of the Octávio Vecchi Forest Museum.

GOALS

Conservation of the assets and renovation of the buildings; adaptations for the improvement of the accessibility for disabled people; restoration of the collections; adaptations for conservation of the collection and technical reservation (regarding the climate and safety conditions); optimization of the library service, through the modernization of the treatment and data management,

digital cataloguing of the collection;
general improvement of the locations
to turn them more appropriate for the
guests.



FORESEEN NEEDS

Acquisition of a software specialized in automation of libraries and museums; digitization of the collection and of documents of interest for wide dissemination; hiring of specialized services for restoration of the artistic collection; implementation of acoustic material for better sound conditioning; acquisition of cooling and dehumidification systems; acquisition of tabletop device and digital sound for transmission of the lectures; purchase of fire prevention equipment, of safety cameras and alarms.

 Financial support required

SÃO PAULO BOTANICAL GARDEN



RESPONSIBLE OFFICE

Institute of Botany – Ibt

HOW IT HAPPENS

The São Paulo Botanical Garden, since its creation, has been adapting to the perception and social issues regarding the environment. It has the mission of preservation and sustainable use of the biodiversity from São Paulo and Brazil through the *in situ* and *ex situ* conservation of the knowledge of all the groups of plants and fungi, as well as their relations with the environment. It maintains collections of live plants, in its visit area and scientific collections that support the researches related to the conservation of biodiversity, health, pharmacology, sewerage, monitoring and education.

The botanical gardens are open-air laboratories and they arouse curiosity, facilitating learning about the different aspects of the flora, its environmental, historical, economic and cultural importance.

It aggregates the scientific research, the conservation of biodiversity and education. In the State of São Paulo, it is an important non-formal education center that, by means of its educational program directed towards raising the public's awareness about the importance of the plants diversity and the need for its conservation, contributes to broaden the knowledge and encourage behavior changes for a sustainable life.

The Botanical Garden annually receives nearly two hundred thousand visitors, among them, 50% are students from

preschool to university, coming from different regions of the State, especially from the Metropolitan Region of São Paulo.

The visit to the Botanical Garden is, for the schools, a tool that enables the contextualized debate of environmental themes. Within this context, the Environmental Education Program developed in the São Paulo Botanical Garden is a reference among the other Brazilian botanical gardens, and it is inserted in projects of the Education Secretariat, such as “Read and Write” and “Curriculum is Culture”. In 2010, the National Committee of Botanical Gardens conferred framing A to the São Paulo Botanical Garden, the first one in Brazil, the highest category of identification and acknowledgment for the services rendered. Among the analyzed items, are the scientific research projects in conservation, environmental monitoring, environmental education activities, existence of herbarium and library.

GOALS

The goals of the São Paulo Botanical Garden are: i) presenting the plants within a scientific context, enabling the comprehension of the complex man/nature relationship; ii) broadening

the knowledge concerning biodiversity, stimulating the critical reflection about the problems related to the extinction of species and its consequences; iii) encouraging people to change their behavior for a sustainable life.



NEXT STEPS

Broadening the botanical collections, emphasizing the endangered species, aiming at contemplating the conservationist and educational activities.

Expanding the educational program and turning it more accessible to the special public. For such purpose, it is necessary to enlarge the educational team, number of monitors and carry on the accessibility project in the whole Garden area.

-  Technical support to be offered
-  Technical support required
-  Financial support required

PROGRAM OF MODERNIZATION AND ENLARGEMENT OF THE RESEARCH AND TECHNOLOGICAL INNOVATION STRUCTURE OF THE GEOLOGICAL INSTITUTE



RESPONSIBLE OFFICE

Geological Institute – IG

HOW IT HAPPENS

The Geological Institute (IG - www.igeologico.sp.gov.br) is an agency Originated from the “Geographical and Geological Committee of the Province of São Paulo - CGC”, created in 1886 and completing 130 years of existence in 2015. THE CGG was created with the purpose of planning and executing

studies and researches to subsidize the occupation of the territory of São Paulo, representing the oldest effort of scientific research in State of São Paulo. The IG is characterized as a reference center in Geosciences in the response to society’s challenges.

The Geological Institute defined the “Program for Modernization of the Research Infrastructure of the Geological Institute”, linked to the Basic

Strategic Plan (PEB) of the Institute, for the period of 2010-2020.

As an essential stage to enable the referred Program and allow the proper revitalization and enlargement of the scientific research and technological innovation premises, the Government of the State of São Paulo designated for the Geological Institute a new area for the implementation of the administrative head office and for research and development premises with the publication of Decree No 59.107 of April 19th 2013 of the Governor of the State of São Paulo (DOE of 04.20.2013). A property was transferred to the administration of the Geological Institute, containing 2.597,00 m² of land and 5.873,00 m² of improvements, located in Vila Mariana, city of São Paulo. Now the property must be renewed to receive the research and administrative premises, besides enabling the installation of new

laboratories and rooms intended for the promotion and public visit.

GOALS

- Generation of knowledge regarding the physical medium, through the development of studies and researches, dissemination and application of the results, and rendering of services to the community;
- Supporting the environmental management, the sustainable development and the implementation of public policies and the definition of Science and Technology policies and of Technological Innovation.

NEXT STEPS

- Receiving financial compensation for the implementation of the project.

-  Technical support to be offered
-  Technical support required
-  Financial support required

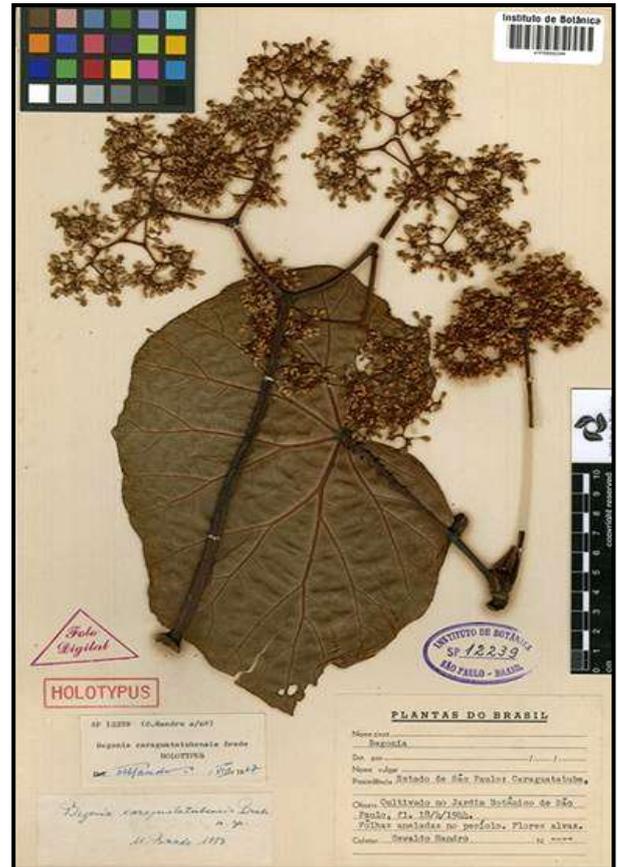
HERBARIUM SP

RESPONSIBLE OFFICE

Institute of Botany - IBt

HOW IT HAPPENS

An herbarium is a collection of plants that are preserved, catalogued and organized in a systematic manner for studies of botanists and other scientists. It is like a warehouse of documents about biodiversity, with information on which plants occur in which areas, serving to fix the identity of a certain species and information source for studies of flora (catalog about all the plants that occur in a certain region), monographs (descriptions of plants of a certain group), study of evolutionary relations and to validate other scientific studies, once it shelters samples of plants used in environmental and chemical researches. Through the studies of herbarium collections, it is possible to infer which was the original vegetation of places where it no longer exists, providing support information to conservation units handling plans and



recovery of degraded areas, elaboration of lists of endangered species and of invasive species. The collections of an herbarium must be carefully stored in environmental conditions that assure its longevity. The Herbarium "MARIA ENEYDA P.K. FIDALGO" of the Institute of Botany had its origin in 1917. It is registered in the Index Herbarium, with the SP initials, and gathers a collection of almost two centuries of samples of the Brazilian flora, mostly representative of the State of São Paulo. It currently counts with 460.000 exsiccates of plants



(mosses, ferns and phanerogames), algae and fungi, and shelters important historical collections. Currently, it is the third biggest herbarium in Brazil.

GOAL:

- Maintaining and improving the storage and conservation conditions of all these collections, optimizing the space for better handling and organization.
- Providing images of its most important materials for virtual consultation (<http://inct.splink.org.br/>), and computerizing the collections (<http://splink.cria.org.br>).
- Concluding and elaborating the publication of the Phanerogamic Flora of the State of São Paulo.

Updating the list of the endangered flora species of the State of São Paulo of 2004.



NEXT STEPS

- Concluding the reorganization of the collection in the new building, whose work was completed in October 2013;
- Continuing with the computerization process of the collection and provision of the collection images and data for virtual consultation;
- Concluding the publication of the Phanerogamic Flora of the State of São Paulo, which since 2001 has published 7 volumes containing 149 families of Angiosperms and 2 of Gymnosperms, 722 genders and 3.237 species, which represent 43% of the total of 7.500 estimated species for the State;
- Updating the list of the endangered flora species in the State of São Paulo, contained in the SMA Resolution 48, of 09-21-2004.

IMPLEMENTATION OF A NEW MUSEOGRAPHY AT MUGEO - GEOLOGICAL MUSEUM AND GEOLOGICAL TIME MURAL AT ÁGUA BRANCA PARK



RESPONSIBLE OFFICE

Geological Institute – IG

HOW IT HAPPENS

MUGEO - Geological Museum is located at Fernando Costa Park or Água Branca Park, and has an average annual visit of around 50 thousand visitors.

Its collection composed by geological equipment, photographs, maps and rocks, minerals and fossil collections originated from the Geological Geographic Committee, created in 1886. MUGEO offers monitored workshops to schools, organized groups and promotes temporary and itinerant exhibits. The project foresees an enlargement of MUGEO, where old annexes of the current building will be

recovered, the modernization of the current architectural special will be conducted, including with the implementation of accesses to visitors with special needs, besides a new museography for the presentation of the collection, more interactive and didactic.

GOALS

- Enlargement of the current building of the museum and implementation of a new museography.
- Assembly of the geological time path/mural on a 55m long wall;
- Acquisition of new spaces for provision of the historical collection of the Geological Institute, organized in four funds: Geographical and Geological Committee (1886-1931); Astronomical and Geophysical Institute (1931-1935); Geographical and Geological Department (1935-1938); Geographical and Geological Institute (1938-1975);
- Insertion of the Paleontological

Collection Sergio Mezzalira at the museographic space of MUGEO, at Água Branca Park. (New spaces in the Park)

- Development of the projects: Pre-salt: coast exhibits (Geographical and Geological Committee);
- Geoarte: stepping stones – itinerant exhibition about geology and environment;
- Publication of the Guidebook about mud slides and implementation of Environmental Education projects in the risk areas;
- Series of Lectures on Geosciences and Environment (event on Sundays at the museum);

NEXT STEPS

- Search for partners which may help in the development of the projects and in the qualification of the involved professionals;
- Financial support for the implementation of the priority actions.

-  Technical support to be offered
-  Technical support required
-  Financial support required

LITHOTHEQUE LABORATORY



RESPONSIBLE OFFICE

Geological Institute – IG

HOW IT HAPPENS

The LITHOTHEQUE LABORATORY project was approved in the scope of the Public Call MCT/FINEP/CTINFRA – PROINFRA – 02/2010 for the renovation and construction of the LITHOTHEQUE LABORATORY in an adjacent area to the Geological Institute. The establishment of the LITHOTHEQUE LABORATORY enabled a proper maintenance and identification of a valuable collection of geological samples obtained in the last 30 years in the State of São Paulo, and to be obtained in the future. These geological materials store physical and chemical data that constitute the base of the technical-scientific production in the different areas of geosciences, allowing

to compose the diagnosis of mineral resources and natural environmental quality of the State of São Paulo, with diagnosis, acknowledgment and sustainable environmental and technological planning - with specific public policies according to the geological composition. Several state and national research institutions may be benefited by the establishment of a scientific use policy of its Collections and its laboratory installations, as well as researchers, professionals, graduate and undergraduate students from other bodies and institutions for the development of their research projects. Besides promoting the study of geological materials from São Paulo, the conveniences of the LITHOTHEQUE LABORATORY will enable the due learning, training and specialization in analytical techniques of handling, preparation and analysis in Earth Science.

GOALS

- The LITHOTHEQUE LABORATORY will shelter scientific collections, laboratory installations,

research rooms and rooms for training of human resources available for public and private companies of the mineral, oil, engineering and environment sector for research purposes, allowing the

characterization of raw material and mineral products, enabling the country's science and technology development.

NEXT STEPS

- Receiving financial compensation for the implementation of the project.



Scientific Geological Collection of the State of São Paulo

- Technical support to be offered
- Technical support required
- Financial support required

PROJECTS FOR IMPROVEMENT OF EQUIPMENT AND OF THE PHYSICAL SPACE OCCUPIED BY THE LABORATORIES OF CETESB



RESPONSIBLE OFFICE

CETESB – Environmental Agency of the State of São Paulo

HOW IT HAPPENS

The monitoring of the environmental quality requires the utilization of specific human resources and materials, which need frequent updates. To keep itself updated, CETESB participates in projects in conjunction with teaching and research

institutions, besides developing projects with resources originated from institutions such as FEHIDRO, FAPESP, FECOP, CNPq, as well as requirements related to the environmental licensing of enterprises. Below are listed some improvements that are being developed, and for which we may predict the rendering or receiving of technical cooperation, as well as the receiving of financial cooperation or donation:

1) Completion of the verifications, training and beginning of operation of the Diesel Vehicle Emissions Laboratory - constructed by ANFAVEA, in compliance with a Judicial Agreement;

2) Completion of the installations, verifications, training and beginning of operation of the Diesel Vehicle Emissions Laboratory - constructed by CPTM, with funds of the World Bank;

3) Enlargement and renovation of the air quality monitoring network - licensing requirements of pollution sources, enlargement and construction of roads, etc.;

4) Enlargement of the water quality monitoring network - FEHIDRO projects, licensing requirements of pollution sources, enlargement and construction of roads, etc.;

5) Enlargement of the Program for Improvement of the Maintenance of Diesel Vehicles - implementation of the software to be utilized by the participant workshops of PMMVD and launch of the Program for

Inspection of Black Smoke with Opacimeter. Actions funded with resources from PETROBRAS, in compliance with a Judicial Agreement;

6) Renovations, enlargements and modernizations of laboratories of the CETESB head office and decentralized laboratories - resources from FEHIDRO projects, environmental licensing, partnerships, etc.

7) Implementation of the enterprise denominated "Modernization and Enlargement of the Actions of Monitoring and Management of the Water Resources at URGHI-10", with resources from FEHIDRO (R\$ 3,5 millions) and compensation from CETESB (R\$ 935 thousand).



-  Technical support to be offered
-  Technical support required
-  Financial support required

OTHER PROJECTS

In this final section, we list some projects that do not exactly fit into any Guideline, or which encompass several guidelines, and for this reason cannot be categorized, but which also have great importance for the Environmental System of São Paulo.

Furthermore, the good development of these projects, which approach several themes, will have indirect influence to achieve the targets and goals proposed by Challenge 451.

IMPLEMENTATION OF THE AICHI TARGETS IN THE STATE OF SÃO PAULO



RESPONSIBLE OFFICE

Biodiversity Committee of São Paulo - CPB

HOW IT HAPPENS

Occurred in Nagoya, capital of the Japanese province of Aichi, the Tenth Conference of the Parties to the Convention on Biological Diversity (CDB) adopted as a decision (Decision X/22) the stimulus and orientation of biodiversity targets to the subnational governments, acknowledging their value in the local initiatives within the national strategies.

For the elaboration of the Strategic Plan of São Paulo, the 20 original Aichi targets were considered. The Action Plan of São Paulo 2020 corresponds to a strategy that gathers partners, actions, projects and products directed

towards the conservation and the sustainable use of the biodiversity in the State of São Paulo.

With beginning of the elaboration in February 2011, this plan subsidized the creation of the Biodiversity Committee of São Paulo by the Governor of the State, through Decree No 57.402, of October 6th 2011.

In order to facilitate the management of the São Paulo Plan, seven actions are considered, each one related to one project, containing a total of twenty-nine products - apt to meet the twenty Aichi Targets. To facilitate the management of the Plan of São Paulo, in 2015 its integration with the 2015-2018 Strategic Planning of the Environmental System of São Paulo was signed, also improving the relation

between CPB and other fundamental collective of the Environmental System of São Paulo responsible for the biodiversity theme.

This way, under the aegis of three central theme axes (Adjustment for Climate Changes, Green Economy and Indicators regarding Biodiversity), nine CPB products are maintained:

- Zero Deforestation Project.
- Green Economy Project.
- Sectorial Sustainability Network.
- Bioprospecting Actions.
- Actions in *ex situ* Conservation of the Biodiversity.
- Biodiversity Monitoring Project.
- Actions for Withdrawal of the Species from the Red Lists.
- Program on Traditional Populations.
- Forest Seeds and Seedlings Program.

Besides reinforcing the Executive Secretariat of the Committee from São Paulo, which wants to start focusing on:

Communication for the Biodiversity Conservation.

Management of Knowledge in Biodiversity.

Monitoring of the Indicators in Biodiversity.



● Financial support required

LAB SP - LOCAL ACTION FOR BIODIVERSITY

RESPONSIBLE OFFICE

Biodiversity Committee of São Paulo
- CPB



HOW IT HAPPENS

Local Action for Biodiversity (LAB) is a global biodiversity program coordinated by ICLEI - Local Governments for Sustainability, in partnership with IUCN (International Union for Conservation of Nature). The LAB approach is oriented to local and regional authorities and their partners all over the world, with focus for the action, with the purpose of a better and most effective management of the biodiversity at local level. LAB is a key component, and collaborator, of the Global Partnership on Cities and Biodiversity, chaired by the Secretariat of the Convention on Biological Diversity and launched in 2008 in the World Conservation Congress of IUCN in Barcelona.

LAB started in 2006, with 21 pioneer cities and local governments,

international leaders in the management of biodiversity at local level. The program is coordinated by a team of biodiversity specialists, who offer support to all the participants, in the form of technical assistance, supply of communication networks and opportunity profiles and, in conjunction with partners, provide a platform for the global defense.

GOALS

Adjustment of the LAB project, for LAB SP, in the scope of the international project "Linking Levels of Biodiversity Planning", from the Executive Secretariat of the Convention on Biological Diversity with ICLEI. This global action is evaluating and strengthening the collaboration in

planning of biodiversity management among the three government levels (federal, state and municipal) of three distinct countries (South Africa, Brazil and Canada) - as reinforced contribution during the COP 12 – 12th Conference of the Parties to the Convention on Biological Diversity (CDB), which occurred from October 6th to 17th 2014, in Pyeongchang, South Korea, especially to the Summit directed towards local and subnational governments, which occurred on the 12th and 14th of the same month, during the COP.

NEXT STEPS

Prospection of resources and of partners for the execution of the LAB SP project. The execution intends to develop under the form of:

- **Sectorial workshops** (interested cities) - in the context of the

 Financial support required

project, qualification of municipal representatives with guidance on local conservation of the biodiversity, and direction on the elaboration of Local Plans.

- **Execution of the “LAB SP” project - Pilot Cities** (select cities) - follow-up of the elaboration of the local plans.
- **Publication:** complete report concerning the project, including support material, presentations, workshops, results, conclusions.
- Presentation and articulation of the following phase, which may focus on the **structuring and implementation of the local action plans** (councils, financial resources and legislation).

LEGAL TIMBER



RESPONSIBLE AGENCIES

Institute of Forestry – IF

Environmental Inspection

Coordination- CFA

Biodiversity and Natural Resources

Coordination– CBRN



HOW IT HAPPENS

Legal Timber is a result of the strategic environmental project “São Paulo, Friend of the Amazon”. The mechanism was adopted by the project after the creation of a new methodology for the “online” identification of wood. This methodology created in the Institute of Forestry meets several inspection points and issues the technical appraisal in real time, this streamlining the result to prove the unlawful in the Routine Operations or Mega

Operations on roads and logging companies

of the State of São Paulo, and also in the inspections of CADMADEIRA at the logging companies, together with the Environmental Police and the Secretariat for the Environment. For such purpose, it is necessary to conduct analyses, in order to identify and quantify the wood that is transported and commercialized in the State, as well as to verify if the species match those described in the DOF - Forest Origin Document - or if it is illegal timber.



CADMADEIRA: Project that consists in a state registration of legal entities that commercialize, in the State of São Paulo, products and byproducts of native origin of the Brazilian flora. It has the purpose of making the registered

companies public, allowing the consumers and the public sector to identify them in the market; guide and encourage the companies to regularize; regulate the state public purchases of native forest products or legal origin; act as a State instrument for control of the origin of the products commercialized in its territory.

GOALS

The program has the purpose of restraining the illegal cut, transportation and commerce of Amazon timber inside the State of São Paulo, as well as promoting the responsible consumption of this raw material.

-  Technical support to be offered
-  Financial support required

NEXT STEPS

Hiring of specialized outsourced services, which may contribute to the work conducted by the Institute of Forestry technical body, which currently counts with only 2 researchers.



GREEN ETHANOL



RESPONSIBLE AGENCIES

Biodiversity and Natural Resources
Coordination– CBRN

HOW IT HAPPENS

The State of São Paulo is a global reference in biofuels. As the biggest world producer of sugar cane ethanol, the State detains one of the cleanest energy matrices in the world, and is a pioneer in researches and development (R&D) in this sector. The State is a leader in all the phases of the ethanol chain. Under diverse points of view, sugar cane ethanol from São Paulo is produced in a sustainable manner, having been recognized by the Environmental Protection Agency of

the United States - EPA as an advanced biofuel, capable of reducing the greenhouse gas emissions by at least 50%, compared to petrol. The Environmental Protocol of the Sugar-Energy Sector of São Paulo represents a pioneer voluntary agreement, signed in 2007 between the Government of the State of São Paulo and UNICE, representative of the sugar and ethanol producer plants, and with ORPLANA, representative of the sugar cane producers, in 2008. By means of this agreement, technical directives of sustainability were established, based on the adoption of the best environmental practices and on the anticipation of the legal deadlines for the elimination of the sugar cane burning as a pre-harvest method.

As they became signatories of the Agro-environmental Protocol, the plants and sugar cane supplier associations elaborate and adopt an Action Plan for the implementation of the technical directives of sustainability.



Annually, indicators of the fulfillment of these Technical Directives are updated by the signatories, in the renewal process of the Green Ethanol Certificate.

GOALS

The main purpose of the Green Ethanol Strategic Environmental Project is to establish a partnership with the sugar-energy sector from São Paulo, in order to develop differentiated agreements that focus on the cooperation and pro-activity of the sector and that establish, in a clear and objective manner, positive parameters, feasible and subject to application and monitoring to be adopted by the sugar, ethanol

and bioenergy producers, aiming at the sustainability of their production.

Environmental gains provided by the Protocol:

- Reduction of the sugar cane burning and of the emissions of pollutants and greenhouse gases, which were resultant from this practice;
- Improvement of the working conditions with the advance of the mechanization of the harvest;
- Protection and restoration of the riparian areas of the rural properties of the plants and signatory sugar cane suppliers;

- Improvement of industrial processes, which resulted in the reduction of the water consumption for the processing of the raw harvested sugar cane.



NEXT STEPS

- Update of the Technical Directives of sustainability of the Protocol, in view of the new productive and legal scenario provided by the mechanization and by the new forest law;
- Actions that promote the appreciation of the Green Ethanol Certificate as a market differential

to the products of the signatories, due to their aggregate environmental value;

- Appreciation of the bioelectricity and of the utilization of the sugar cane straw as raw material for cogeneration;
- Seek financial resources to:
 - Conduct the monitoring of the sugar cane burning and of other forms of vegetation through the analysis of satellite images, aiming at the protection of biodiversity;
 - Diagnose the status of the signatories' riparian areas and the necessary actions for their restoration, especially in spring areas;
 - Support the environmental regularization of the signatories' properties.

- Receive technical cooperation
- Financial support required

SUSTAINABLE GUARAPIRANGA



RESPONSIBLE OFFICE

Biodiversity and Natural Resources

Coordination– CBRN

HOW IT HAPPENS

The incentive to the adoption of low environmental impact agricultural techniques is the mechanism adopted by SMA (Environmental State Secretariat) and SAA (Agriculture and Supply State Secretariat) to increase the producers' income generation and, at the same time, discipline the use of the soil in a proper manner for the preservation, recovery and conservation of the Basin springs.

GOALS

- Promoting articulated actions that increase the environmental sustainability of the family agriculture

and its competitiveness, encouraging associativism and competitiveness;

- Equating the commercialization problems of production, through the access to specialized markets;
- Minimizing the negative impacts of conventional agriculture and of the disorderly urban expansion.

NEXT STEPS

- Formation of an online Technologies Bank of sustainable agricultural production (scientific articles, practical experiences, technical articles, etc.);
- Support in the structuring of the centers of the Agroecology Network of Guarapiranga;
- Studies for identification of sustainable markets.
- Good Practices Protocols with producers' organizations.



Technical support required



Financial support required



Technical support to be offered

SENSITIZATION ACTIONS FOR GOOD ENVIRONMENTAL PRACTICES DIRECTED TO THE GENERAL PUBLIC



RESPONSIBLE OFFICE

Environmental Education
Coordination– CEA

HOW IT HAPPENS

Execution and exhibition of programs prepared for the transmission by open or closed signal broadcast companies, with diversified content, mainly the educational programming ones, directed towards the sensitization of a great part of the population in relation to the good environmental practices issues, conducted in collaboration with Fundação Padre Anchieta - TV Cultura; besides a project of action applied to

information technology, with the creation of a gamified website, rich in virtual scenarios, increased reality and interactive electronic layouts.

GOALS

Publishing and promoting projects and actions that encourage environmental education practices, to sensitize and raise awareness of viewers or internet users with varied age ranges and social classes, concerning issues affected by the 2015-2018 Guidelines of the Environmental System of São Paulo, such as: Environmental Conservation and Ecological Restoration, Reduction of the Environmental Footprint, Environmental Vulnerability and Climate Changes, Management and Conservation of Wild Fauna and Environmental Licensing.

The main purpose is to convey information for a permanent non-formal learning process, the individual and collective formation for reflection and construction of values, knowledge,

skills, attitudes and competences, aiming at the improvement of life quality and a sustainable relationship between human society and the environment that integrates it.

NEXT STEPS

From the end of the last quarter of 2015, TV Cultura and its retransmitters will be transmitting, at a daytime rotating schedule, the program *MINUTO AMBIENTAL*, recorded in HD (high definition) video, graphically illustrated and animated, with 1 minute of duration, presenting in fast brushstrokes reflections on the guidelines and their insertions in the actions and projects of public policies of the Environmental System of São Paulo.

Besides the TV show, the website will be launched from December 2015. The purpose is to utilize ideas and mechanics of the electronic games in a context not directly related to them, raising the level of engagement of the users to the system information, enabling them to gain an even greater sense from which they initially had as a purpose.



● Financial support required

ENVIRONMENTAL EDUCATION DIALOGS



RESPONSIBLE OFFICE

Environmental Education
Coordination– CEA

HOW IT HAPPENS

The Environmental Education Coordination (CEA) incorporates environmental education in the public policies and in the management processes, permeating the set of actions and projects of the Secretariat for the Environment. It represents the support by the State of São Paulo to the local environmental education actions, fulfilling the guidelines established by the Environmental System of São Paulo and by the National and State Environmental Policies.

Considering this scenario, the Environmental Education Coordination has been developing the “Environmental Education Dialogs”, which consist in a series of meetings to share experiences and reflections and to broaden and qualify the action possibilities of environmental education in the Environmental System of São Paulo. The event is directed towards the System servers and is intended to foster the comprehension of environmental education as an essential tool to enhance the public management.

GOALS

- Sharing environmental education experiences and reflections at the Environmental System of São Paulo;



- Broadening and qualifying the action possibilities of environmental education in the Environmental System of São Paulo;
- Producing knowledge to subsidize environmental education public policies in the Environmental System of São Paulo.

DYNAMICS AND FUNCTIONING

The “Environmental Education Dialogs”, as exposed, consist in a series of meeting, in which each event contemplates the environmental education approach concerning a specific theme of the public policies and of the management processes that permeate the set of actions and projects of the Environmental System of São Paulo. The intention is that every

- Technical support to be offered
- Technical support required

meeting brings local environmental education experiences in public environmental management and experiences from the academy, ensuring a dialog space for exchange of experiences. The theme of each meeting is the main factor that motivates the interest of the System servers to participate in the event.

The two first meetings of the “Environmental Education Dialogs” had the themes of “Environmental Education in Public Spaces” and “Environmental Education in Public Environmental Management”.

NEXT STEPS

- Conduction of Dialogs with the theme “Environmental Education in the Solid Waste Management”.
- Definition of the next themes in line with the Management Guidelines for the strengthening of environmental education of the Environmental System of São Paulo.

ENVIRONMENTAL EDUCATION PROJECT OF THE GUARAPIRANGA ECOLOGICAL PARK (PEG) AND NEIGHBORING AREA



RESPONSIBLE OFFICE

Environmental Education
Coordination– CEA

HOW IT HAPPENS

The Environmental Education Coordination was invited to elaborate an environmental education project for the neighboring area of the Guarapiranga Ecological Park, to be integrated in an Environmental Recovery Commitment Agreement signed between Eletropaulo and SMA. The Park neighboring area is an important spring region that integrates the water supply system of the Metropolitan Region of São Paulo. It is characterized by occupations with little urban and sewerage infrastructure and little access to social rights by the local population. The population of the Park neighboring area and the local public

power are potential partners to ensure the effective protection of the reservoir and of the Park, as well as to promote the environmental quality and broaden its life quality, constituting as target audience of this project.

GOALS

- Creating opportunities for the dialog between the Park neighboring area community and the local public power;
- Promoting the participation and the involvement of the different actors of the region in the management and protection of the PEG;
- Spreading good environmental practices to be applied in the territory by the community;
- Strengthening collective spaces of debate, reflection and decision,

aiming at a participative management;

- Fostering community means of communication as a strategy for the strengthening of the relations, of the representativeness and of social mobilization.

DYNAMICS AND FUNCTIONING

The project execution will occur by hiring a company with acknowledged experience in the theme, to be conducted by Eletropaulo. The team of the Environmental Education Coordination will conduct the technical supervision, the follow-up and the assessment of the project development.

The project is structured in five lines of action:

- 1) Mapping and articulation of local entities, partners in the execution of the project - consists in the initial planning phase of the project, with socioeconomic data survey and prospection of the public and partner entities;
- 2) Construction of a participative socio-environmental diagnosis for the survey of the perceptions of the community of the neighboring areas regarding the local reality;

3) Conduction of good environmental practices workshops on themes considered priority for the neighboring area community;

4) Education for the participative management through allowances for the formation, qualification and strengthening of the PEC Guarapiranga advisory board - qualification workshops aiming at the restructuring of the PEG advisory board;

5) Developing a formation process in community communication through the conduction of qualification workshops for the appropriation and development of community communication tools.

NEXT STEPS

- Signature of the Environmental Recovery Commitment Agreement;
- Planning meetings between the CEA team and the team hired for the execution;
- Articulation with the Urban Parks Coordination and with acting partners of the territory;
- Follow-up and evaluation of the project development;

ORGANIC SÃO PAULO



RESPONSIBLE OFFICE

Biodiversity and Natural Resources

Coordination– CBRN

HOW IT HAPPENS

The project is an action of the Government of the State of São Paulo, conducted through the SMA (Secretariat for the Environment) and SAA (Agriculture and Supply Secretariat), in partnership with institutions of the organic sector, which seeks, through public policies, solutions to foster the organic and sustainable products market.

GOALS

- Encouraging the increase of the production and improvement in productivity;
- Promoting the approximation between producers and consumers;
- Producing without the use of artificial inputs, controlling pests and diseases in the most natural possible manner;

- Qualifying the rural extension. The qualification course in Organic and Sustainable Agriculture has the purpose of qualifying technicians of the rural extension and research of the State of São Paulo, so that they are able to guide farmers and develop researches in organic production systems.

NEXT STEPS

- New phase of the qualifications, with participation of the farmers and their organizations.
- Conduction of events, such as Workshops, Seminars, Business Rounds and Gastronomic Circuits.

-  Technical support to be offered
-  Technical support required
-  Financial support required

POSTGRADUATE PROGRAM OF THE INSTITUTE OF BOTANY: “VEGETAL BIODIVERSITY AND THE ENVIRONMENT”



RESPONSIBLE OFFICE

Institute of Botany - IBt

HOW IT HAPPENS

The Postgraduate Program in “Vegetal Biodiversity and the Environment” was approved by CAPES in 2002, with Masters and Doctorate courses, and focuses on two big areas: Non-Vascular Plants and Fungi in environmental analyses and Vascular Plants in environmental analyses. This way, the Program has been offering training with multidisciplinary approach about plants and ecosystems, contributing to the formation of professionals qualified to act in the conduction of botanic, environmental researches, evaluation of environmental impacts,

carbon sequestration, preservation and sustainable use of the biodiversity, provision of allowances for the recovery of ecosystems, besides studies directed towards biotechnology, both of vascular plants and of microorganisms, such as prospection of drugs, toxins and bioactive substances. The Program was evaluated by CAPES and classified as level 5, currently having 106 students and a total of 89 scholarships from the agencies CAPES, CNPq and FAPESP.

GOALS

By means of this Graduate Program, we intend to achieve the following goals:

- i) ***Formation of Human Resources:*** formation of masters and doctors with

multidisciplinary approach, involving big vegetable groups and fungi and their interfaces with the environment, aiming at contributing for the formation of specialists capable of taking leadership positions in teaching, research and in environmental management at national level.

ii) **Generation of Knowledge:** based on scientific researches on biodiversity and the environment, considering the wide range of vegetable groups, including algae, cyanobacteria and fungi, both in the ground and aquatic ecosystems.

iii) **Disclosure of scientific researches:** by means of the elaboration theses, dissertations, books and, mainly, articles in national and international scientific magazines, besides the transference of knowledge to the general public through articles of dissemination, lectures, courses and congresses.

NEXT STEPS

The Postgraduate Program in “Biodiversity and the Environment”, of the Institute of Botany, intends to continue to encourage the guidance and the production of quality and reliable scientific research, besides the formation of professionals capable of taking leadership positions, in the country, in the environment area. Besides that, the Postgraduate Course of the Institute of Botany has as its future steps the conclusion of a specific database program for the management of all the information; subsequently, the creation of an information system that integrates the registration information, the scientific production of students and professors and, also, organize the information to be provided to the general public and to the fulfillment of public policies.

ZOO SCHOOL PROGRAM



RESPONSIBLE OFFICES

Zoological Park Foundation of São Paulo
– FPZSP



HOW IT HAPPENS

FPZSP started in 2011 the Teachers Formation Program “Zoo School: The Atlantic Forest as a Teaching Instrument”, which counts with the partnership of the Municipal Secretariat of Education of São Paulo to reach all the teachers from the public district schools, who are interested in participating. Conducted during one year, the Zoo School Program basically consists in 4 stages: theoretical course for teachers; visit with the students to the São Paulo Zoo, with emphasis on the Atlantic

Forest; the development of environmental projects in the schools and the presentation at the end of the year, to the other teachers and to the involved team, for evaluation and choice of the most relevant works.

GOAL

Utilizing the Zoo as a tool to awaken the respect for nature and stimulate teachers and students to have a critical and participative view towards the socio-environmental reality.



● Technical support to be offered

FAZENDA LEGAL PROGRAM



RESPONSIBLE OFFICES

Zoological Park Foundation of São Paulo – FPZSP - Rural Production Division

HOW IT HAPPENS

FPZSP started in 2011 the Environmental Education Program "Fazenda Legal", which annually counts with partnerships from the Education and Secretariat for the Environments of City Halls of the cities of the

neighboring area of the Rural Production Division, in Araçoiaba da Serra. Conducted during one year, the "Fazenda Legal" Program basically consists in the theoretical and practical formation of teachers on themes related to environmental issues; monitored visit with the students to the São Paulo Zoo Farm, whose main theme of sustainability and conservation of nature; the development of environmental projects in the schools and, at the end of the year, the evaluation and choice of the most relevant works for awarding.

GOAL

Utilizing the Zoo Farm as a learning and knowledge space, in order to awaken the respect to life and aggregate environmental values.

 Technical support to be offered

WILD FAUNA CONSERVATION CENTER OF THE STATE OF SÃO PAULO – CECFAU



RESPONSIBLE OFFICES

Zoological Park Foundation of São Paulo – FPZSP

HOW IT HAPPENS

Opened in 2015, CECFAU - Wild Fauna Conservation Center of the State of São Paulo was conceived by the Managing Council and by the technical body of the Zoological Park Foundation of São Paulo, and exclusively enabled with its own financial resources, collected by

the park visit activity. It is an advanced center of studies, directed towards the environmental monitoring, the preservation of samples and maintenance of genetic resources. The site chosen as headquarters is an area of 80 thousand m², inside the Zoo Farm, in Araçoiaba da Serra/SP.

The infrastructure project of CECFAU follows guidelines that prioritize the sustainable environmental management and includes in its premises administrative, technical

support and animal feeding areas, as well as a complex of rooms adapted for the handling of different animal species. The training area concentrates a proper space for the conduction of courses, meetings, lectures and events. The operational activities are segmented in their own spaces, such as offices, locker rooms and supplies deposit.

With this entire infrastructure, CECFAU is fully qualified to fulfill its main role with distinction: promoting the conservation of endangered native wild fauna species, through researches and integrated *in situ* e *ex situ* conservation programs, and of the maintenance of captive individuals genetically feasible for programs of reintroduction and reinforcement of the populations in nature.

GOAL

In the research field, the molecular biology laboratory of the Foundation will also enable the creation of a

genetic reserve bank, integrating multidisciplinary teams, environmental entities and the scientific community.

Another very important aspect is the stimulus to environmental education of the communities that live next to the areas where CECFAU develops its fieldwork. The technicians' concern involves not only the study and conservation of the endangered local fauna, but also raising the population's awareness regarding the important role that each species plays in the environment balance.



 Financial support required

SPECIALIZATION COURSE “ENVIRONMENTAL COMPLIANCE WITH TECHNICAL AND LEGAL REQUIREMENTS”



RESPONSIBLE OFFICES

CETESB – Environmental Agency of the State of São Paulo

HOW IT HAPPENS

CETESB filed a request for accreditation of the CETESB Higher Education School at the State Board of Education – CEE, also requesting authorization for the *lato sensu* specialization course “Environmental Compliance with Legal and Technical Requirements”. The elaboration of the educational project of the referred course counted with a Work Group composed by representatives from all the Boards of directors of CETESB.

The course foresees 14 mandatory subjects and one optional, totalizing 450 (four hundred and fifty) credit hours, not counted the periods for studies, conduction of works and elaboration of the course term paper. ESC was visited by specialists designated by CEE, as part of the accreditation process.



GOAL

Qualification of professionals for the fulfillment of legal and technical requirements, aiming at the environmental compliance of the enterprises, and correlated themes. With this course, the obtention of the following benefits is intended:

- Greater knowledge of the goals and procedures of the Environmental Agency;

- Greater knowledge of the legislation and technical and legal procedures in the environment area;
- Better preparation of the documentation for environmental licensing processes, with potential for reduction of the licensing deadlines, by the reduction of requests for complementation of this documentation;
- Greater knowledge of the possibilities of pollution prevention and control, as well as of the recovery and remediation of degraded and contaminated sites;
- Contribution for the improvement of the quality of the environment in its physical, biological and anthropic

dimensions, with consequent positive impact for the public health;

- Contribution for the Sustainable Development, for which the fulfillment of the environmental legislations and norms is an essential requirement.



NEXT STEPS

Obtaining the authorization from the State Board of Education.

- Technical support to be offered
- Technical support required
- Financial support required

GREENBLUE MUNICIPALITY PROGRAM COORDINATION PROGRAM



HOW IT HAPPENS

Program that aims at stimulating local environmental actions and evaluates the performance of the cities of the State year by year. The actions of each Cycle are subject to execution by the 645 cities of the state, and are presented in such a manner as to compose a proposal of a minimum environmental agenda of the municipal managements.

GOALS

- Encouraging the presence of the environmental variable in the agenda of the City;
- Stimulating the municipal public power to plan and execute actions that promote the continuous improvement of the environmental quality of the city;
- Proposing the integrated management of the environmental quality in the State of São Paulo, through the combination of efforts

from the local Governments with the Government of the State of São Paulo.

ADVANTAGES FOR THE CITIES

- Participation in an articulated structure between the cities, which favors the development of joint actions among the participants;
- Access to resources, once the participation in the Program and the certification are evaluated criteria for their concession;
- Technical support from the bodies of the Environmental System of São Paulo in the development of environmental planning;
- Participation in governmental actions and projects, which utilize some of the Program's criteria for the selection of the pilot cities.

-  Technical support to be offered
-  Technical support required
-  Financial support required

DATAGEO PROJECT



RESPONSIBLE OFFICES

Environmental Planning Coordination-
CPLA

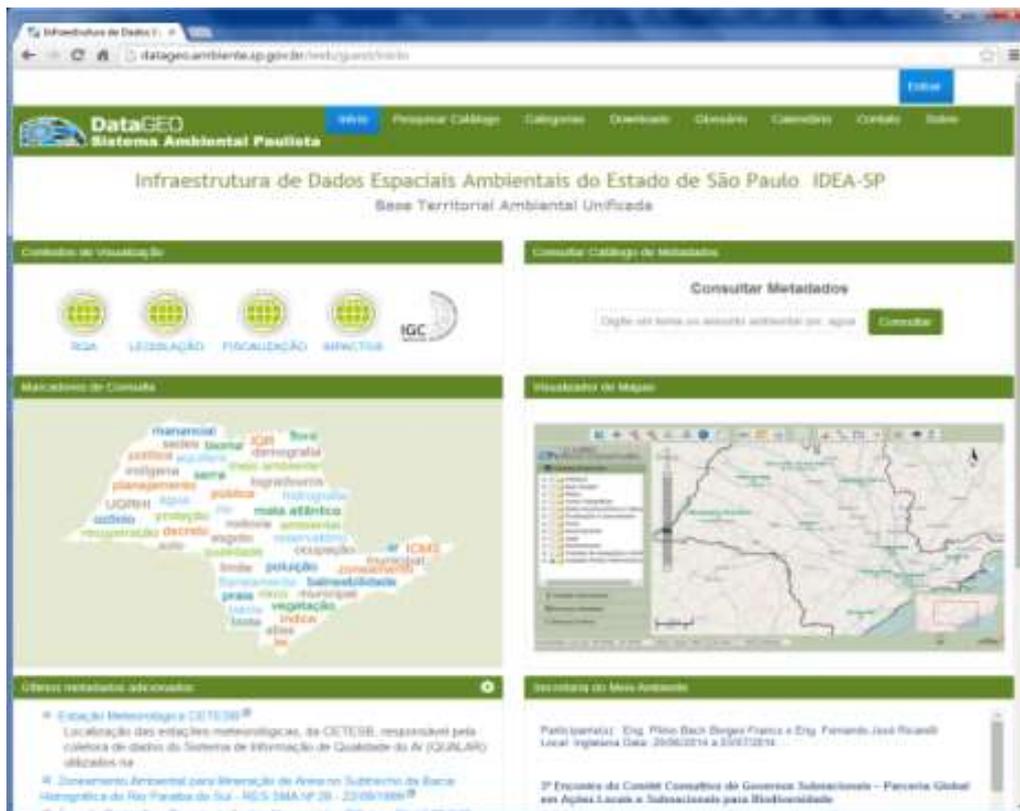
HOW IT HAPPENS

The DataGEO Project has as its purpose the structuring, organization and provision of the environmental and territorial information bases of the Environmental System of São Paulo.

It is a technological innovation project in the area of geo information, which adopted as a solution the creation of a **Spatial Data Infrastructure- IDE** defined in Decree 6.666, of 11/27/2008, which institutes the National Infrastructure of Spatial Data - INDE: *"[...] as an integrated set of technologies, policies, mechanisms and procedures of coordination and monitoring; standards and agreements, necessary to facilitate and sort the generation, the storage, the access, the sharing, the dissemination and the use of the geospatial data of federal, state, district and municipal origin".*

The establishment of an IDE in a public institution must seek to ally the flexibility and the high level of interchange and sharing of the data and systems that compose it, with the necessary safety in the access to the information of exclusive use of the public agency. With an eye on the changes of paradigm in the use of territorial information, the Secretariat for the Environment of the State of São Paulo is building and implementing an **Environmental Spatial Data Infrastructure** denominated **IDEA-SP**, which is the first **Theme IDE** directed towards the Environmental issues provided to the public.

The IDEA-SP enables the utilization of state of the art technological resources, allowing the structuring and provision of a standardized and qualified Environmental Territorial Information Base to support the actions of licensing, inspection, planning and management in its analyses and decision making.



DataGEO is composed by one Geoportal, the access door to the Environmental Territorial Information Base, a Metadata Catalog to research the desired information and a geographical visualizer, everything accessible through the Web by all the internet browsers through the

Link:

<http://datageo.ambiente.sp.gov.br>

GOALS

- Creating and implementing the Environmental Spatial Data Infrastructure of the State of São Paulo – IDEA/SP, focused on the environmental theme;

- Promoting the technological innovation in dealing with the territorial and environmental information, following the principle of transparency, cooperation and sharing;
- Providing a flexible and easy-access tool that enables the integration, organization, cataloguing, conversion, standardization and provision of territorial information through a Web Portal;
- Construction of the Unified Environmental Territorial Base of the Secretariat for the Environment - SP, substantiated on an IDE, consolidating cartographic bases,

FEPRAC - STATE FUND FOR PREVENTION AND REMEDIATION OF CONTAMINATED AREAS

for the financing of activities related to



RESPONSIBLE AGENCIES

Environmental Agency of the State of São Paulo – CETESB / SMA Management Advising

HOW IT HAPPENS

The State Fund for Prevention and Remediation of Contaminated Areas - FEPRAC, created by Law No 13.577, of July 8th 2009 and regulated by Decree No 59.263, of June 5th 2013, is linked to the Secretariat for the Environment, Secretary's Office. This Fund is intended

the identification and remediation of contaminated areas, among which are the ones called "orphan areas", sites whose legal responsible person is not identified or has not implemented the necessary actions for its rehabilitation.

The Registration of Contaminated and Rehabilitated Areas of the State of São Paulo, until December 2014, indicated a total of 5.148 sites in which the natural characteristics of the soil and water had suffered alterations as a result of the development of activities with polluting

potential, being 563 classified as rehabilitated and 1.204 as in process of monitoring for conclusion.

The city of São Paulo continues recording the biggest number of cases, 1.833; followed by the Metropolitan Region of São Paulo (38 cities, excluding the capital city), with 861 areas; Countryside, 1.823; Coast (South Coast, Baixada Santista, North Coast and Vale do Ribeira), 353; and Vale do Paraíba (and Mantiqueira), 278.

GOALS

The FEPRAC resources are intended to support and encourage the execution of the stages of the management of contaminated areas, related to the identification and the rehabilitation of contaminated areas, with the possibility of being claimed by bodies or entities of the direct or indirect administration; inter-municipal

consortia; public services concessionaires; private companies; individuals.

NEXT STEPS

The revenues of FEPRAC will come from specific funds or credits, consigned in the State budget; transferences from other state funds, as well as from the Union, from the States and Cities; resources derived from international cooperation and aid; from environmental compensations; from fines applied for environmental damages, among other operations.



 Financial support required



THEMES FOR SCIENTIFIC RESEARCH AND TECHNICAL QUALIFICATION

Below are listed themes, which, although they do not refer to any specific project, they point at the main technical and academic areas that SMA has interest in offering or receiving cooperation.

● Technical support to be offered

- **Climate policies:** Definition, comparison, implementation and measurement; energy policies and plans; elaboration of “white papers”.
- **Phycology:** Biotechnology of marine algae; identification of the macroalgae for the purposes of handling, monitoring and control of invasive species; identification of the algae with economic and biotechnological potential; etc.
- **Mycology:** Techniques of collection, preservation and identification of wood degrading fungi; dissemination guidebook for acknowledgment of the native vegetation and future uses; identification of bio indicator species.
- **Physiology and Biochemistry of Plants:** Responses from plants to global climate changes; bio prospection of vegetable compounds with biological activity arising from the native flora; biotechnological potential of the carbohydrates of plants.
- **Vegetal Taxonomy:** Studies of morphological and molecular phylogeny and taxonomy, as well as biogeography in several groups of vascular plants; floristic studies with the elaboration of inventories of species that occur in a certain

area; phytosociological studies for knowledge regarding the structure, the functioning, the dynamics, the history, the distribution and environmental relations of the vegetal community.

- **Anatomy and Morphology of Plants:** Environmental anatomy for the definition of bio indicator vegetable species to oxidant pollutants and their use in air quality biomonitoring programs; anatomy of native and cultivated plants with economic potential for the pharmaceutical industry.
- **Palynology:** Palynotaxonomy: study of the pollen grains and spores of ferns and lycophytes with the purpose of aiding in the vegetal taxonomy.
- **Melissopalynology:** botanic origin of the honey and of the apicultural products (apicultural pollen, propolis and geopropolis). Aeropalynology: analysis of the pollen and spores contained in the air for verification of allergies and pollination studies.
- **Quaternary Palynology:** analysis of the pollen and spores contained in soils subsidizing data concerning climate and vegetation changes.
- **Handling of fauna in captivity:** support in public policies related to wild fauna; technology in assisted animal reproduction, research techniques in molecular biology with emphasis on wild fauna, study in microbiology; environmental technology for the conservation of the environment.

Technical support required

- **Combat to wild animals trafficking:** Equipment for the combat to animal trafficking and world strategies; technical enhancement and integration of the combat / prevention and destination sectors.
- **Climate Adjustment Plans:** Projects in final uses of energy and mitigation of sectorial emissions; elaboration of “white papers”.
- **Environmental Education:** Environmental Education Indicators; Methodologies of participation of society in the environmental management, including public consultations and hearings.

- **Phycology:** Biotechnology of marine algae; identification of the macroalgae for the purposes of handling, monitoring and control of invasive species; identification of the algae with economic and biotechnological potential; etc.
- **Mycology:** Techniques of collection, preservation and identification of wood degrading basidiomycete fungi; dissemination guidebook for acknowledgment of the native vegetation and future uses; identification of bio indicator species.
- **Vegetal Taxonomy:** Taxonomy, phylogeny and biogeography of vascular plants; floristic and phytosociology of vegetable formations of the Brazilian southeast; curatorship of a vascular plants herbarium collection.
- **Anatomy and Morphology of Plants:** Pharmacology, food sciences, improvement of plants, biomonitoring of the air.
- **Palynology:** Entomology, geology, medicine (allergies), soil science, forensic science (criminalistics), food science.
- **In-situ and ex-situ handling of fauna:** reintroduction of wild fauna, environmental technologies, microbiology techniques, molecular biology and assisted reproduction.
- **Combat to Animal Trafficking:** Equipment for the combat to animal trafficking and world strategies; technical enhancement and integration of the combat / prevention and destination sectors.
- **Qualification of employees of the DIA department (Department of Environmental Information):** This department has the attribution of promoting the articulation among the several segments of society and of the public power, incorporating them to the environmental planning process; participating in the management of areas under special protection or of strategic environmental interest; formulating and proposing guidelines to discipline the use of the environmental resources; and subsidizing the elaboration of the sectorial, regional and state policies, regarding the environmental issues.
- **Eco-efficiency (Cleaner production):** Innovations/ Sustainable Consumption and Production.
- **Solid Waste (Consumption Changes):** Reducing garbage generation, reutilizing and recycling materials.

- **Planning tools of the Macrometropolis:** Instruments to increase the efficiency of the governmental action and rationalize the use of the public resources.
- **Support and development of technologies and tools for inspection:** knowing new technologies, procedures and information systems directed towards the monitoring and inspection; training in classification of remote sensing products.
- **Course on Prevention of disasters and mapping of risks to geodynamic events:** presents the concepts of risk and natural disasters, how to scale the problem, its causes and consequences. It includes a practical part of hazard analysis and mapping in regional (landscape approach) and local (integrated empirical method) scales, through the use of geoprocessing tools and field works. It also presents examples of structural measures of risk reduction, organization and operation of civil defense contingency plans and models of institutional articulation and of hazard perception.



Financial support required

- **Combat to wild animals trafficking:** Hiring of transportation services for seized animals; operationalization of the destination sites; acquisition of fauna handling tools; elaboration of the foundations manual, qualification and course of identification and handling of wild animals; didactic material for the prevention of act against animals.
- **Environmental Education Projects:** Interchange for exchange of experiences of Environmental Education methods in regional/subnational scope.
- **Climate Policies:** Networks for exchange of information, qualification and diffusion; harmonization of national policies, interchange of specialists with academic institutions; elaboration of “white papers”.
- **Phycology:** Biotechnology of marine algae; identification of the macroalgae for the purposes of handling, monitoring and control of invasive species; identification of the algae with economic and biotechnological potential; etc.
- **Mycology:** Techniques of collection, preservation and identification of wood degrading basidiomycete fungi; dissemination guidebook for acknowledgment of the native vegetation and future uses; identification of bio indicator species.

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- **Melissopalynology:** botanic origin of the honey and of the apicultural products (apicultural pollen, propolis and geopropolis). **Aeropalynology:** analysis of the pollen and spores contained in the air for verification of allergies and pollination studies.
- **Quaternary Palynology:** analysis of the pollen and spores contained in soils subsidizing data concerning climate and vegetation changes.
- **Monitoring and inspection of the spring areas:** Periodic acquisition of satellite images and strengthening of the actions for inspection of the area.
- **Support and development of technologies and tools for remote inspection:** implementation of advanced monitoring systems with simultaneous remote sensing and with local distribution.

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