STATE GOVERNMENT
SÃO PAULO

PROJECT PORTFOLIO

SÃO PAULO STATE SECRETARIAT
FOR THE ENVIRONMENT

Governor of the State of São Paulo
Geraldo Alckmin

State Secretary for the Environment
Patrícia Iglecias

São Paulo State Secretariat for the Environment
www.ambiente.sp.gov.br

International Affairs Office
✆ +55 11 3133.3346
✉ aint@ambiente.sp.gov.br

Planning and orientation
Ana Paula Fava

Coordination
Bianca Amaral Mazzuchelli

Collaboration
Rodrigo Furtado Messias, Martina Müller

Interns
Rodrigo Freitas de Andrade, Marcelo Sacrini Espirito Santo, Caio Lázaro Návia, Suelen Aparecida da Silva

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INTRODUCTION

This portfolio contains an overview of projects currently being carried out by organs and institutions comprising the São Paulo State Environmental System, supervised by the São Paulo State Secretariat for the Environment.

The purpose of this portfolio is to enhance communication between our Environmental System and international actors, encouraging the exchange of experiences. Particularly, we wish to foster cooperation with academic, research and financial institutions, as well as subnational and local governments and other stakeholders, be it through formal cooperation agreements or other forms of partnership and assistance.

To provide a general overview of the opportunities for collaboration, projects currently being carried out by São Paulo's Environmental System are summarized in a maximum of two pages[1]. Each outline also indicates if international technical support can be offered by project participants, or if technical and/or financial support is required to continue developing that particular initiative.

For more information about the work of the Secretariat and to contact the office responsible for each initiative listed in this Portfolio, we kindly ask the reader to reach out to us – the International Affairs office will be pleased to assist you.

International Affairs Office
São Paulo State Secretariat for the Environment

Technical support to be offered

Technical support required

Financial support required

✉ aint@ambiente.sp.gov.br
✆+55 11 3133.3346

[1] Data concerning each project was collected throughout the year of 2014. For the most updated situation, please contact the Secretariat.

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THE ENVIRONMENTAL SYSTEM OF SÃO PAULO

The Environmental System of São Paulo is part of the São Paulo State Government, Brazil, and is responsible for the environmental management in its territory.

Our mission is to implement policies which promote an ecologically balanced environment for the present and future generations, ensuring conditions for sustainable development, social welfare and the protection of the dignity of human life.

The Secretariat for the Environment is the central institution of our system, overseeing the work of multiple coordinating bodies, institutes, foundations and an environmental agency. These are the main functions of each organ (acronyms correspond to the name in Portuguese):

SMA – Secretariat for the Environment
Central institution of the Environmental System of São Paulo; planning, coordinating, supervising and controlling the State Environmental Policy.

CBRN – Biodiversity and Natural Resources Coordination
Economic instruments to encourage restoration and preservation; fauna management; dissemination of low impact technologies for agricultural and forestry activities.

CPLA – Environmental Planning Coordination
Land use planning; geographic information system; environmental diagnosis; public policies; sustainable solid waste management.

CFA – Environmental Inspection Coordination
Environmental monitoring and inspection; interface with the Environmental Military Police.

CEA – Environmental Education Coordination
Supports and creates methodologies for environmental education; spreads and consolidates ideas of sustainability; stimulates public participation and citizenship.

CPU – Urban Parks Coordination
Management of eight State Parks, maintaining of green areas for recreation, leisure and entertainment; quality of life; well-being.

CMVA – GreenBlue Municipality Program Coordination
Interface with municipalities; decentralization of environmental management.

CONSEMA – Environmental State Council
Democratic forum; evaluation and monitoring of environmental policies; government & organized civil society interaction; participatory decision-making in environmental management.

CETESB – Environmental Agency[2]
Environmental licensing; control and monitoring of environmental quality.

IF – Institute of Forestry
Research; environmental conservation; forestry production.

IG – Institute of Geology
Research; spatial planning; mitigation of environmental issues; prevention of natural disasters.

IBt – Institute of Botany
Research; São Paulo Botanical Garden.

FF – Forestry Foundation
Management of protected areas, both of integral protection and of sustainable use.

Zoo Foundation
São Paulo Zoo; Safari Zoo; Zoo Farm.

[2] Projects being carried out by the Environmental Agency (CETESB) are not listed in this portfolio, but can be found at the agency's website: www.cetesb.sp.gov.br.

01. RIPARIAN FOREST PROGRAM

NAME IN PORTUGUESE

"Programa Nascentes"

RESPONSIBLE OFFICE

CBRN – Biodiversity and Natural Resources Coordination

HOW IT WORKS

Riparian forests are essential for the maintenance of adequate ecologic balance. They offer protection to water and soil, reducing the silting of rivers, lakes and dams and preventing the discharge of pollutants into the aquatic environment. Protecting the vegetation surrounding these water bodies is thus fundamental to safeguard water resources.

In addition, riparian forests create corridors that contribute to the conservation of biodiversity; provide food and shelter to fauna; build natural barriers against the dissemination of plagues and agricultural diseases; and absorb and retain carbon dioxide during their growth.

The Riparian Forest Program, established in 2014 through Decree Nr. 60.521, will be executed in coordination with other actions developed by the Secretariat for the Environment aiming at the recovery of riparian forests across the whole São Paulo State territory. A standard unit (Equivalent Tree) has been established to represent liabilities (forest replacement obligations) and assets (restoration projects), considering the equivalence in environmental importance. This enables prioritizing the recovery of areas with greater relevance to the conservation of water and biodiversity.

In practical terms, the Riparian Forest Program has the scope of recovering about 20 thousand hectares (corresponding to 40 million seedlings), and its projects are developed with public and private investments. Actions are initially directed to priority intervention areas in the Alto Tietê, Paraíba do Sul and Piracicaba-Capivari-Jundiaí watersheds, which concentrate over 30 million inhabitants.

In the Piracicaba-Capivari-Jundiaí watershed, for example, the Cachoeira Project was developed with the support of the São Paulo State Secretariat for the Environment in one of the four main reservoirs of the Cantareira System. This project, whose goal is to plant 350 hectares in the surroundings of the homonymous reservoir, results from a partnership between the Secretariat for the Environment, a local cooperative society ("Ambiência Cooperativa de Trabalho para Reflorestamento Ambiental da Represa de Piracaia e Região") and The Nature Conservancy NGO.

Another pilot Project to be mentioned is the "Mina D'Água", which tests economic incentives methodologies for voluntary deforestation reduction and environmental protection policies carried out in partnership with municipalities. In the municipality of Piracaia, initiatives are being developed in nine properties, involving more than 140 hectares and 31 water springs.

GOALS

Expand the protection and conservation of water resources and biodiversity by optimizing and focusing public and private investments targeted at the:

I – protection and recovery of riparian forests, springs and waterholes;

II – protection of groundwater recharge areas;

III – expansion of the native vegetation coverage on springs, especially in water supply catchment areas;

IV – planting native trees and improving the management of productive systems in watersheds and springs.

NEXT STEPS

- Select and register ecological restoration projects in water supply catchment areas;
- Focus investments to finance registered projects, including:
  o Reforestation of new areas with funds deriving from the payment of environmental liabilities;
  o Voluntary projects for emissions or water footprint compensation.
- Financial incentives in the form of payment for environmental services.

Technical support to be offered

Technical support required

02. IMPLEMENTING THE AICHI TARGETS

NAME IN PORTUGUESE

"Implementação das metas de Aichi no Estado de São Paulo"

RESPONSIBLE OFFICE

CPB – Biodiversity Commission of São Paulo

HOW IT WORKS

In 2010, the 10th Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) was held in Nagoya, Japan, adopting the Decision X/22 to encourage and support biodiversity targets at the subnational level, recognizing the importance of local initiatives within national strategies.

Therefore, for the elaboration of São Paulo's Strategic Plan, all the 20 original Aichi targets were considered.
São Paulo's Action Plan 2020 is a strategy that combines partners, actions and projects for biodiversity conversation and use in the State of São Paulo.

Starting its elaboration in February 2011, this plan provided a base for the establishment of the São Paulo State Biodiversity Commission in 2011, through Decree Nr. 57.402.

São Paulo's plan consists of seven actions, each with a corresponding project, and a total of 29 products – required for achieving the 20 Aichi Targets in the State of Paulo.

Action 1 – Raising Society's Awareness about Biodiversity

Project: Communication Plan for Biodiversity
Product 1: Biodiversity Portal;
Product 2: Campaigns for Biodiversity;
Product 3: National and International Events on Biodiversity;
Product 4: Capacity Building Cycles on Biodiversity;
Product 5: Publications from the Environment System of São Paulo.

Action 2 – Assessment of São Paulo's Biodiversity

Project: Instruments for São Paulo's Biodiversity Assessment
Product 1: TEEB São Paulo - The Economics of Ecosystems and Biodiversity;
Product 2: Panel of Indicators on Biodiversity;
Product 3: Ecological Economic Zoning;
Product 4: Monitoring and Implementation of the PEMC - State Policy on Climate Change.

Action 3 – Reduction of the Pressure on São Paulo's Biodiversity

Project: Strategy for reducing pressure on São Paulo's biodiversity

Product 1: Zero Deforestation Project;
Product 2: Inspection Project;
Product 3: Fight Forest Fires Project;
Product 4: São Paulo Strategy on Invading Exotic Species.

Action 4 – Supporting Sustainable Consumption and Production

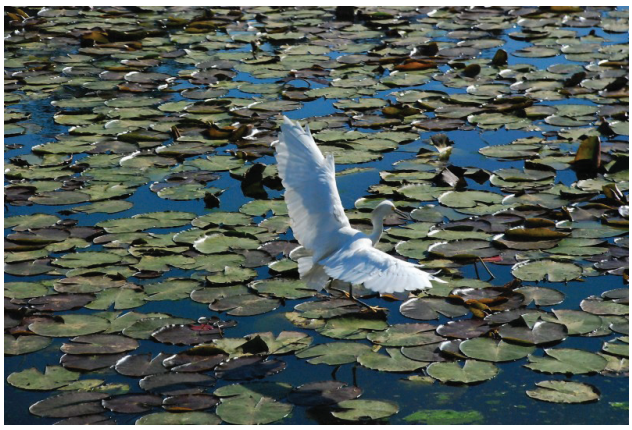
Project: Sustainable Consumption and Production Program

Product 1: Green Economy Project;
Product 2: Sectorial Sustainability;
Product 3: Bio-prospection.

Action 5 – Biodiversity Conservation

Project: Instruments for Biodiversity Conservation.

Product 1: Conservation Units System – SEUC;
Product 2: Establishment of Legal Reserves and Areas under Permanent Protection;
Product 3: Payment for Environmental Services Program;
Product 4: Ex-situ Biodiversity Conservation;
Product 5: Biodiversity Monitoring;
Product 6: Removal of Species from the Red Lists;
Product 7: Traditional Populations Program.



Action 6 – Ecological Restoration

Project: Forest Reminiscent Program

Product 1: Ecological Restoration – Legal Reserve and Riparian Forest;
Product 2: Implementation of "SARA"- Restoring Areas Supporting System and "TCRA" Term of Commitment for Environmental Recovery;
Product 3: Conservation Unit for Sustainable Use and the Creation of Legal Reserves;
Product 4: Seed and Seedlings Program

Action 7 – Knowledge Management

Project: Knowledge Management on São Paulo's Biodiversity.

Product 1: State Program for Biodiversity Research;
Product 2: Technological Innovation.

Financial support required

03. LAB SP - LOCAL ACTION FOR BIODIVERSITY

Local Action for Biodiversity
AN ICLEI-IUCN PROGRAMME

NAME IN PORTUGUESE

"Ação Local para Biodiversidade – SP"

RESPONSIBLE OFFICE

CPB – Biodiversity Commission of São Paulo

HOW IT WORKS

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.

LAB's approach is targeted at local and regional authorities and their partners around the world. It is action-oriented, and aimed at a more effective biodiversity management at the local level. LAB is a key element and collaborator of the Global Partnership on Cities and Biodiversity, chaired by the Convention on Biological Diversity's Secretariat and launched in 2008 at the IUCN World Conservation Congress in Barcelona.

LAB started in 2006, with 21 pioneering cities and local governments, considered international leaders in biodiversity management. The Program is coordinated by a team of biodiversity experts who offer support to all participants through technical assistance, communication networks and opportunity profiles and, in collaboration with partners, by providing a global platform for protection.

Financial support required

GOALS

Adapt the LAB project to LAB SP within the international project "Linking Levels of Biodiversity Planning", led by the Convention on Biological Diversity Executive Secretariat in partnership with ICLEI. This global action aims to evaluate and strenghten the collaboration for biodiversity management between all three government levels (federal, state and municipal) in three different countries (South Africa, Brazil and Canada).

NEXT STEPS

Prospect partners and resources for the implementation of the LAB SP project, which should be carried out through:

- Sectorial workshops (selected municipalities) – in the context of the project, to provide capacity building for municipal representatives, with guidance on local biodiversity conservation, especially regarding the elaboration of Local Plans.
- "LAB SP" implementation in pilot municipalities – monitoring the elaboration of local plans.
- Publication: complete report about the project, including support material, presentations, workshops, results and conclusions.
- Presentation and articulation of next stages, which could focus on the structuring and implementation of local action plans (advices, financial resources and legislation).

04. GREENBLUE MUNICIPALITY PROGRAM

NAME IN PORTUGUESE

"Programa Município VerdeAzul"

RESPONSIBLE OFFICES

GreenBlue Municipality Program Coordination

HOW IT WORKS

The "GreenBlue Municipality" is an innovative environmental program created in 2007 to support the municipalities of the State of São Paulo in structuring and carrying out their own environmental actions. Its aim is to expand the municipal environmental agenda, gaining efficiency in local management.

Through this Program, the Secretariat for the Environment works in cooperation with local public administration, providing technical assistance and capacity-building for municipal officers. It is a Program of voluntary participation, and at the end of 2014, 610 out of a total of 645 municipalities were actively taking part in this initiative and sharing its benefits.

The actions of the Program are systematized in a total of ten overarching areas, in accordance with specific criteria to be evaluated every year. At the end of each annual cycle, the effectiveness of municipalities in conducting the proposed actions is measured through pre-established indicators, assessed through self-reporting.

Technical support to be offered

Technical support required

Financial support required

MUNICÍPIO VERDEAZUL

GOALS

- Encourage the presence of environmental topics in municipal agendas;
- Foster the participation of different actors of society in environmental policy-making, fostering social empowerment for sustainability;
- Encourage municipal public authorities to plan and carry out actions that promote the continuous advancement of the environmental quality in their municipalities.

MUNICIPALITIES' BENEFITS

- Facilitated and more effective dialogue with the different organs of the São Paulo State Environmental System;
- Participation in an articulated structure of municipalities, enabling the development of joint actions among partners;
- Municipalities with a good score based on their environmental actions have priority in accessing funds;
- Municipalities facing difficulties in the development and implementation of environmental plans receive technical support from the Secretariat for the Environment.

05. CONSERVATION UNITS MANAGEMENT

NAME IN PORTUGUESE

"Gestão das Unidades de Conservação"

RESPONSIBLE OFFICE

FF – Forestry Foundation

HOW IT WORKS

The National System of Nature Conservancy Units (SNUC) was established in 2000 by Federal Law Nr. 9.985. SNUC enabled a stronger institutionalization of these Units' management by regulating activities and practices to administer areas with unique socio-environmental relevance.

The São Paulo State Secretariat for the Environment applies the federal model, administrating the Conservation Unit categories envisaged by SNUC and supporting the management and establishment of new protected areas (please refer to the Protected Areas Expansion Plan Project). It also operates the São Paulo State Information and Management System of Protected Areas and Areas of Environmental Interest – SIGAP-SP.

This system integrates, organizes, catalogues and publicizes information about protected areas and areas of environmental interest. It also structures specific regulation for associated activities, improving tools for management and sustainable practices in protected areas.

GOALS

- Promote the maintenance of endangered and rare species habitat;
- Protect the natural functions of protected environments;
- Increase spatial planning;
- Support the lifestyle of traditional communities and surrounding populations;
- Promote participative management through Managing Councils;
- Support environmental inspection;
- Organize activities of public use and environmental education;

Technical support to be offered

- Internalize sustainable practices in the management of Conservation Units;
- Develop of educational tours in trails and other attractions;
- Support guided environmental activities and visits to Conservation Units, as well as environmental education projects, management and interaction in Conservation Units.
- Capacity-building in participative and shared management, emphasising actions carried out together with Managing Councils;
- Prospect new businesses and partnerships with the private sector;
- Analyse the feasibility of business activities, taking into consideration the necessary authorizations for public use of Conservation Units;
- Develop ecotourism products as an alternative for revenue generation.

Technical support required

- Economic potential of carbon stocks;
- Economic impact evaluation of public use activities;
- Partnerships with the private sector and the third sector for forest restauration projects;
- Analysis of the feasibility of business activities, taking into consideration the necessary authorizations for public use of Conservation Units;
- Monitoring of the environmental impact of public use activities in Conservation Units for public activities;
- Economics of Ecosystem and Biodiversity of São Paulo to assess biodiversity and ecosystem services;
- Implementation of a system to study and evaluate environmental education initiatives in Conservation Units, including with the establishment of indicators;
- Capacity-building in participative and shared management with society.

Financial support required

- Produce publications and leaflets on the Conservation Units and activities carried out within them;
- Develop alternative transport options for public use activities;
- Implement technologies to control access and monitor public activities in Conservation Units;
- Implement projects to improve communication in Conservation Unis – voice and data transmission;
- Implement alternative energy systems;
- Implement sewage treatment systems.

06. PROTECTED AREAS EXPANSION PLAN

NAME IN PORTUGUESE

“Plano de Expansão de Áreas Protegidas no Estado de São Paulo”

RESPONSIBLE OFFICE

CPB – Biodiversity Commission of São Paulo

HOW IT WORKS

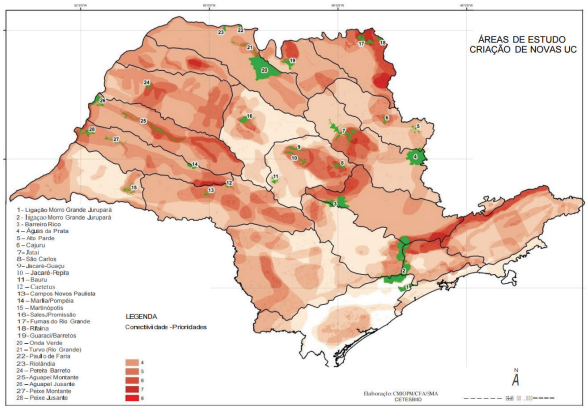
This plan systematizes proposals for the establishment of new protected areas, territorial studies, the connectivity of different native vegetation fragments and fundamental instruments for the conservation of biodiversity in the whole State of São Paulo, under the São Paulo Commission for Biodiversity. The Commission was instituted in 2011 by Decree Nr. 57.402, with the goal of implementing the 2011-2020 Action Plan of the Convention on Biological Diversity – known as the Aichi Targets – in the State of São Paulo. Emphasis is given to Target 11, regarding the expansion and improvement of protected areas.

The plan is based on the integration of diverse strategic environmental issues, extrapolating the conservation concept to also include issues pertaining climate change, water resources and sustainable development.

GOALS

1. Identify priority areas (implementing studies such as BIOTA-FAPESP)
2. Optimize work and partnerships with a view to:

- Support efforts to create new Conservancy Units, such as with data collection;



- Studies for the expansion of protected areas;
- Studies on new protection instruments.

3. Consolidate the list of operational priorities;
4. Regularize land in protected areas, when applicable, through:

- Use of resources of the Special Fund for the Preservation of Biodiversity and Natural Resources (FPBRN), integrated to the search for new sources of funding – such as donations and international collaborations;
- Reorientation of funds from environmental responsibility commitment terms (TCRAs);
- Use of environmental compensation funds from Judicial Agreements or conduct adjustment agreements (TACs);
- Organized channeling of funds destined to institute legal reserves (a type of protected area), commonly not applicable to Conservation Units;
- Implementation of the created Conservation Units, protected areas and related instruments.

Financial support required

07. DATAGEO PROJECT

NAME IN PORTUGUESE

“Projeto DataGEO”

RESPONSIBLE OFFICE

CPLA – Environmental Planning Coordination

HOW IT WORKS

The DataGEO project aims to structure and organize environmental and territorial information produced by different organs and institutions of São Paulo’s Environmental System, making it easily available to all.

Establishing a Spatial Data Infrastructure - SDI in a public institution should envisage combining flexibility and intensive exchange and sharing of data and systems. In regard to the paradigm shift on the use of territorial information, the São Paulo State Secretariat for the Environment is developing and implementing an Environmental Spatial Data Infrastructure called IDEA-SP which is the first Thematic SDI focused on environmental issues available to the public.

IDEA-SP enables the utilization of cutting-edges technological resources, allowing the structuring and provision of a standardized and qualified Territorial Environmental Information Base to support licensing, inspection, planning and management actions in analysis and decision making. DataGEO is composed of a Geoportal, the tool to access the Territorial Environmental Information Base, a Metadata Catalogue for research and a geographic viewer, all accessible online.

DataGEO
Sistema Ambiental Paulista

GOALS

- Create and implement a solid Environmental Spatial Data Infrastructure for São Paulo – IDEA/SP, focused on the environmental thematic;
- Promote technological innovation on environmental and territorial information management, following the principle of transparency, cooperation and sharing;
- Provide a flexible and user-friendly tool which allows integration, organization, cataloging, conversion, standardization and disclosure of territorial information;
- Develop a Unified Territorial Environmental Base of the Secretariat for the Environment - SP, based on a SDI, consolidating cartographic bases, thematic maps and environmental data generated by the São Paulo State Environmental System.

NEXT STEPS

- Improve and continue implementing the project, expanding it;
- Support the development of other thematic SDIs and promote the integration with the Database of others institutions;
- Create a model methodology to applying a Spatial Data Infrastructure on the development of transactional systems, on processes analysis and on the elaboration of public policies;
- Provide input to and support the creation of analysis environments.

Technical support to be offered

Technical support required

Financial support required

08. MAPPING SÃO PAULO'S ECOSYSTEMS

NAME IN PORTUGUESE

"Mapeamento dos Ecossistemas do Estado de São Paulo"

RESPONSIBLE OFFICE

CPB – Biodiversity Commission of São Paulo

HOW IT WORKS

The ecosystem approach is one of the transversal themes adopted by the Convention on Biological Diversity – CBD. The parties to the Convention understand that this approach contributes to a harmonic achievement of the three goals of the Convention: conservation, sustainable use and benefit sharing.

According to CBD Executive Secretary, Dr. Braulio Dias, the ecosystem approach relates biodiversity to ecosystem services and their economic use by human societies, contributing effectively to the achievement of the Aichi Biodiversity Targets, established in the Strategic Plan for Biodiversity 2011-2020.

The Strategic Plan highlighted the importance of this relation, urging Parties to commit to the adoption of measures to reduce biodiversity loss, preserve the ecosystems' resilience and the continuous provision of environmental services. Consequently, they will be contributing to the conservation of life diversity and the eradication of poverty.

However, it should be highlighted that there is one basic precondition to move in this direction: to collect and evaluate data about the current situation of ecosystems.

In this sense, IUCN – International Union for Conservation of Nature is implementing the

Ecosystem Management Programme, which includes the "Red List of Ecosystems". This initiative inspired São Paulo to establish a methodology for the identification and classification of endangered species, guiding public policies for their conservation.

In order to establish the "Red List of Ecosystems", the first step is to map the existing ecosystems in a particular territory.

Brazil initiated this process by organizing a seminar on the theme in April 2013, organized by the Ministry of the Environment – MMA, ICMBio, IUCN, IPÊ, WWF Brazil, among other organizations and States. On that occasion, a Working Group was set up to continue the discussion and propose a national strategy. In November, the first Working Group meeting was convened, which decided to undertake case studies to evaluate existing methodologies for ecosystem mapping.

The State of São Paulo has been adopting various initiatives which can support and improve this action:

- The BIOTA-FAPESP Program, currently known as the Virtual Institute of Biodiversity, launched in 1999 with the purpose of identifying, mapping and analyzing biodiversity in the State of São Paulo;
- The CPB – Biodiversity Commission of São Paulo, which involves several governmental agencies in addition to universities, NGOs, the productive sector and the national government, with the goal of implementing an Action Plan to achieve the Aichi Biodiversity Targets;
- Periodic update of the São Paulo State Forest Inventory, mapping the remains of native forests;
- Publication of the São Paulo Mapping Project's ("Projeto Mapeia São Paulo") first results, carried out by the State Secretariat for Development and Planning and the Metropolitan Development Secretariat in collaboration with the São Paulo Company of Metropolitan Planning (EMPLASA), conaining orthophotographs of the entire state and cartographic updates;
- The signature, by the Secretariat for the Environment and the Conservation International (CI) in Brazil, of an agreement to develop the TEEB São Paulo Project (please refer to specific project description).

NEXT STEPS

The mapping of São Paulo State's ecosystems will contribute significantly to all actions identified above. In addition, it can be one of the case studies at national level, serving as a tool for the implementation of the new Forestry Code (Law 12.651, approved in 2012).

Financial support required

09. DATABASE OF THE PHYSICAL ENVIROMENT

NAME IN PORTUGUESE

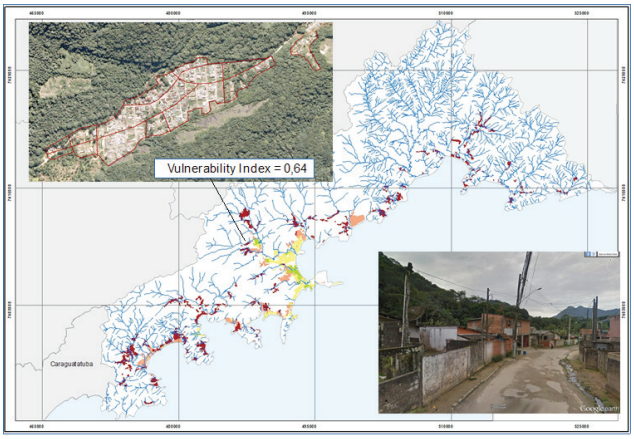
“Base de Dados do Meio Físico”

RESPONSIBLE OFFICE

IG - Institute of Geology

HOW IT WORKS

Scientific knowledge about the physical environment is essential for the conservation and protection of non-renewable natural resources and biodiversity; land management and mitigation of environmental problems; and the formulation and implementation of public policies focused on the environment and sustainable development, as well as for the recovery of degraded areas and management of conservation units. The Institute of Geology administers databases on various themes, some of them already available on its institutional website (on geomorphology, climatology and paleontology) and others still being implemented (on aquifers, natural disasters, risk areas, degraded areas by mining on the North Coast, geological monuments, historical collections, Geological Museum, Library, among others). Consulting these databases allows the user to identify thematic research areas that could benefit from investments. These databases target different audiences: environmental agencies, research institutions, universities, museums, Civil Defense and NGOs, among others.



GOALS

- Broad online dissemination of the existing geo-scientific knowledge in the São Paulo State, enabling its use by different sectors of society;
- Monitoring of indicators of the physical environment to support the establishment of public policies.

NEXT STEPS

- Enhancement and inclusion of new features, development of report modules, continuous update of research programs;
- Search partners to support project development and capacity building;
- Financial support for the implementation of priority actions.

Technical support to be offered

Technical support required

Financial support required

10. STATE SOLID WASTE PLAN

NAME IN PORTUGUESE

“Plano Estadual de Resíduos Sólidos”

RESPONSIBLE OFFICE

Environmental Planning Coordination – CPLA

HOW IT WORKS

The State Solid Waste Plan meets the content provided in the National Waste Policy and was envisioned by the State Commission for Solid Waste Management. A working group made up of technicians and specialists of the Environmental Agency (CETESB) and the Secretariat for the Environment designed the Plan with the participation of others State organs, under the orientation of the Environmental Planning Coordination (CPLA).

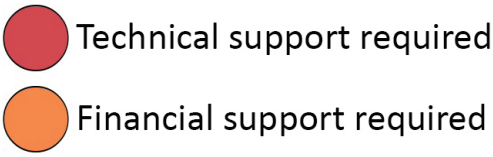
GOALS

- Support the municipal management of solid waste and recycling, selective collection and improvement of its final destination;
- Improve environmental education for solid waste management;
- Portray the situation of waste management in the State through the Waste Panorama;
- Studies on regionalization and inter-municipal arrangements, which have the following goals: encouraging the decentralization of public policies focused on managing solid waste; share services and activities of common interest for the municipalities; and optimize financial, material and human resources;
- Propose scenarios which analyse possible future configurations for solid waste using current generation projections;
- Establish directives, goals and actions for the next ten years to ensure the implementation of the State Plan, taking into account the following priority ranking: non-generation, reduction, reuse, recycling, treatment and final disposal of waste.

NEXT STEPS

The Plan provides five different guidelines to achieve the intended goals and adequately plan to manage solid waste in the State of São Paulo. Finely tuned and in partnerships with municipal governments, diverse actions will be developed to implement the plan, among which:

- Promote awareness, communication and environmental education in management of solid waste through the implementation of an Environmental Education Program, which should involve actors from municipalities and civil society in its drafting;
- Improve solid waste management planning through the implementation of an Annual Declaratory System of Solid Waste which will be made possible throuh the State System of Online Management – SIGOR;
- Implement the State Inventory of Solid Waste, expanding the scope of the State Inventory of Urban Solid Waste, collected since 1977;
- Monitoring, through quality indicators in solid waste management, as the existing Waste Landfill Quality Index (IQR) and Waste Management Index (IMR) to evaluate the efficacy of the Plan.



11. THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY OF SÃO PAULO - TEEB-SP

NAME IN PORTUGUESE

"Projeto de Economia dos Ecossistemas e da Biodiversidade de São Paulo – TEEB-SP"

RESPONSIBLE OFFICE

CBRN – Biodiversity and Natural Resources Coordination

HOW IT WORKS

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

GOAL

The study will identify, and map whenever possible, the existing ecosystem services in the State of São Paulo, and will highlight the available tools for an evaluation and valuation of these services at the subnational level.

NEXT STEPS

This study is expected to provide input and support the implementation of strategic state policies and mechanisms that aim at improving the management, use and preservation of São Paulo State natural resources.

Technical support required

Financial support required

12. ENVIRONMENTAL RURAL REGISTRY SYSTEM OF SÃO PAULO – SiCAR SP

NAME IN PORTUGUESE

"Sistema de Cadastro Ambiental Rural Paulista – SICAR SP"

RESPONSIBLE OFFICE

CBRN – Biodiversity and Natural Resources Coordination

HOW IT WORKS

The Environmental Rural Registry – CAR is the main electronic tool for mandatory registry of all rural properties, in line with the new federal environmental legislation. It will enable stronger law enforcement of the environmental legislation, and will support the compliance with national and international targets regarding the maintenance of native vegetation and the ecological restauration of ecosystems. The registry information is of declaratory nature, and of responsibility of the land owner/ holder. Besides containing basic data, such as address and total area of the property, it also foresees a visual display of it, based on existing aerial images.

Currently, properties located in the State of São Paulo are to be registered using only São Paulo's SiCAR, its own vesion of the electronic tool. In the future, all state registries will feed into the National System.

GOALS

- Unify the databases of São Paulo's environmental system, in order to streamline citizens' demands related to the environment – authorizations, certificates and licenses;
- Improve the environmental management, controlling deforestation and supporting environmental planning based on the land structure.

NEXT STEPS

- Support the rural extension with financial or human resources, assisting small landowners in the registration;
- Technological suport in regard to in Geographical Information Systems, improving methods for automatic analysis of SiCAR's information.

Technical support to be offered

Technical support required

Financial support required

13. ENVIRONMENTAL MONITORING THROUGH SATELLITE IMAGES

NAME IN PORTUGUESE

"MAIS – Monitoramento Ambiental por Imagens de Satélite"

RESPONSIBLE OFFICE

CFA – Environmental Inspection Coordination

HOW IT WORKS

Areas with natural vegetation are fundamental to conserve biodiversity and to maintain ecosystem services. Thus, guaranteeing the protection of the natural vegetation still remaining in the State of São Paulo (17,5%) is a priority to environmental inspection.

Considering this challenge, the Secretariat for the Environment developed a methodology to identify and inspect deforestation and illegal fires in São Paulo: the MAIS program, which enables environmental monitoring through satellite images.

The monitoring routine created through the MAIS program combines agility and low cost, allowing each of the circa 24.800.000 hectares of the whole São Paulo State territory to be monitored between five and twelve times a year. Any deforestation occurring in an area larger than 0.3 hectares (around half a football field) can be identified and immediately notified to the Environmental Military Police.

Current satellite images are compared with aerial photographs captured between 2010 and 2011 by EMPLASA's (São Paulo's Metropolitan Planning Company) São Paulo Mapping Project, allowing the identification of natural vegetation areas which suffered alterations. These modifications might occur due to deforestation, removal of undergrowth forest, forest fires or soil movement. The irregular use of legally protected areas inside private property can also be monitored. Once the irregularities are verified, documents are prepared and sent to the Environmental Military Police, which then initiates the procedures for on-ground inspection.

As soon as a violation is confirmed, the Environmental Military Police is able to issue an infraction notice, punish the violator and take measures to recover the area.

GOAL

Identify and inform possible changes in the remains of natural vegetation in the State of São Paulo.

NEXT STEPS

Enhance the methodology through higher quality information and by reducing the time between images capturing and forwarding to inspection officers.

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

14. TECNOLOGIES AND TOOLS FOR REMOTE INSPECTION

NAME IN PORTUGUESE

“Apoio e desenvolvimento de tecnologias e ferramentas para fiscalização remota”

RESPONSIBLE OFFICE

CFA – Environmental Inspection Coordination

HOW IT WORKS

Aerial images are admittedly important to support research and environmental inspections. The development of Remotely Piloted Aircraft Systems (RPAS) allows fast and low-cost collection of high-resolution images, reducing the necessity of long and difficult hours on the field, improving the precision of information and reducing the risk for technicians and environmental police.

This tool, with its technology, will support the identification of possible changes in vegetation coverage or irregularities, such as deforestation and irregular occupation, as well as enabling photographic surveys of specific polygons.

Many programmed special operations will make use of the RPA, as well as other projects being developed by the Environmental System of São Paulo, such as the Project for Sustainable Development of São Paulo’s Coastline, the Pro-Vicinal Project and the Spring Areas Inspection Project, developed jointly with the Secretariat for Sanitation and Water Resources.

Technical support required

Financial support required

GOALS

- Support and develop technologies and tools for remote inspection;
- Refine and develop information systems directed at environmental monitoring and inspection;
- Assimilate and incorporate new remote sensing methodologies at the Secretariat for the Environment and the Environmental Military Police.

NEXTS STEPS

- Develop and implement advanced monitoring systems using products of the remote sensing obtained through RPAs and other methods;
- Develop methodologies and procedures for the analysis and distribution of remote sensing products applied to environmental inspection.

15. SPECIAL COORDINATION FOR THE RESTAURATION OF DEGRADED AREAS

NAME IN PORTUGUESE

"CERAD - Coordenação Especial de Restauração de Áreas Degradadas"

RESPONSIBLE OFFICE

IBt – Institute of Botany

HOW IT WORKS

CERAD, since its inauguration, in 2000, works in different fields of the ecological restauration science, carrying out research with economic and technical-scientific approaches. Research and action are concentrated on the regions of the Mogi-Guaçu Municipality, Campininha and the protected area of São Marcelo (IPAPER); State Park "Fontes do Ipiranga"; and the areas related to environmental compensation of the Rodoanel Road (beltway in the south and north segments).

CERAD also counts with a Geo-processing Laboratory, which develops studies to support planning and research by the Institute of Botany. Additionally, CERAD supports the dissemination of research results and provides maps and other products for scientific articles, books and newspaper reports.

CERAD also administers the Tamboril Seedbed, which promotes the ex situ conservation of biodiversity through a live collection of rare species and species threatened with extinction, aiming their propagation and reintegration in nature.

GOALS

Development of studies and experimental research to evaluate and monitor areas under restauration, using standardized analysis methods to compare results and establish new parameters.

NEXT STEPS

The results obtained in this coordination have contributed immensely to edicts of the Secretariat for the Environment, aiming at improving environmental public policies of the Government of the State of Paulo.

The generated information also feed a database which will enable diverse studies and scientific events organized by CERAD.

Financial support required

CERAD
Coordenação Especial para Restauração de Áreas Degradadas

16. FOREST INVENTORY

NAME IN PORTUGUESE

“Inventário Florestal do Estado de São Paulo”

RESPONSIBLE OFFICE

IF – Institute of Forestry

HOW IT WORKS

The Forest Inventory of the State of São Paulo presents a diagnosis of the native vegetation cover and reforestation efforts in the State. The Forest Inventory also supports the Biota Program of FAPESP (São Paulo’s Research Foundation), which maps its biodiversity and counts with dozens of projects developed by more than 500 researchers of the main universities and research institutions of the State.

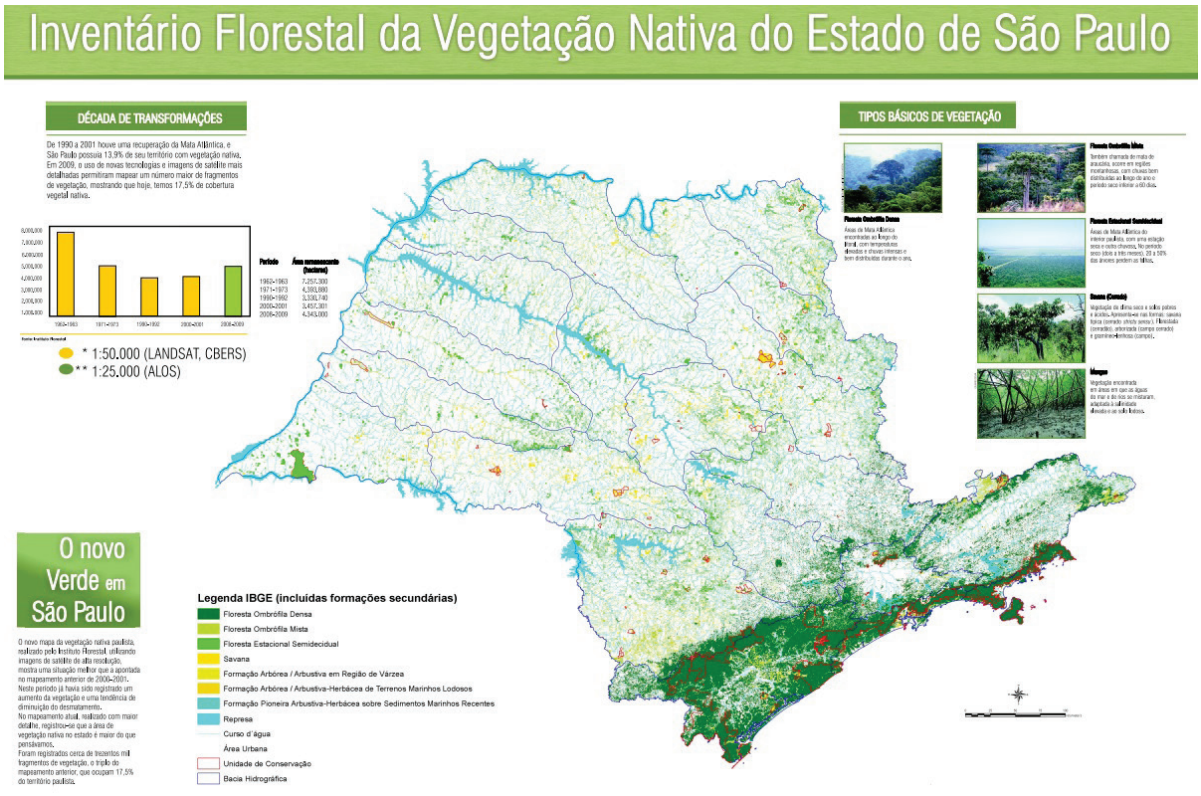
GOALS

The Forest Inventory is an efficient scientific tool for the strategic environmental evaluation of: (i) environmental goods and services, (ii) the biota, (iii) potential climate impacts in natural systems, and (iv) ecosystems. It also provides resources for licensing procedures, inspections and environmental public policies.

NEXT STEPS

Seek partners to finance the inventory update, which is required by State Law Nr. 13.798 on the State Climate Change Policy. This law establishes that the referred project must be updated and publicized every three years, providing data disaggregated by hydrographic management units and municipalities.

Financial support required



17. LEGAL TIMBER

NAME IN PORTUGUESE

“Madeira Legal”

RESPONSIBLE OFFICES

CBRN - Biodiversity and Natural Resources Coordination

Supporting/Inspecting offices: CPLA - Environmental Planning Coordination

and IF - Institute of Forestry

HOW IT WORKS

Legal Timber is an outcome product of the strategic environmental project “São Paulo Friend of the Amazon”. The adopted mechanism consists of a timber identification and inspection process during Routine Operations or Mega-operations of the Environmental Police and the Secretariat for the Environment. For this purpose, analysis must be carried out in order to identify and quantify the amount of timber transported and commercialized in the State of São Paulo, verifying if the wood species match the description on the certification documents.

Embedded in this program is **CADMADEIRA**, a project which consists of a state registry of legal entities which trade products and byproducts of the Brazilian native flora. Its goal is to publicize information regarding the registered companies, allowing consumers and the public sector to easily identify them in the market. In addition, the program guides and encourages companies to regularize their situation; regulates subnational public procurement related to forest products of legal origin; and, finally, acts as an instrument to control the origin of products traded in the State territory.

GOALS

This program aims to halt illegal logging, transportation and trade of Amazonian timber in the State of São Paulo, and to promote responsible consumption.

NEXT STEPS

Hire outsourced services to support the technical work of the Institute of Forestry, which currently employs only two identification researchers and six specialists.

Technical support to be offered

Financial support required

18. ARBOREAL SPECIES GENETIC CONSERVATION PROGRAM

NAME IN PORTUGUESE

"Programa de Conservação Genética de Espécies Arbóreas"

RESPONSIBLE OFFICE

IF – Institute of Forestry

HOW IT WORKS

Environmental conservation comprehends actions of preservation, maintenance, sustainable use, restauration and improvement of the natural environment. To carry out conservationist programs, possessing specialized knowledge on the genetic structure of populations is understood as a fundamental step.

The data generated through research on population genetics can be used to establish priorities regarding the management of genetic resources, indicating areas and populations of higher or lower importance for preservation of taxons, allowing the design of effective conservation strategies.

GOALS

- *In situ* preservation of genetic diversity of arboreal species populations threatened with extinction;
- *Ex situ* conservation of genetic diversity of populations of arboreal species which are highly threatened with extinction or which are intended to be used in short or medium term, in programs of enhancement or production of seeds (please refer to the "Seed Orchard" project).

Technical support to be offered

19. SEED ORCHARD

NAME IN PORTUGUESE

“Pomar de Sementes”

RESPONSIBLE OFFICE

IF – Institute of Forestry

HOW IT WORKS

This project envisages the installation of seed production areas and the implementation of genetic conservation databanks of native arboreal species for forest restauration.

GOALS

The project’s main goal is to increase and genetically enhance the seed production of native arboreal species which occur in the tropical rainforest (“Mata Atlântica”) and in the Brazilian savanna (“Cerrado”). These seeds will be used for the implementation of enrichment planting for diverse purposes, such as the recovery of degraded areas and the commercial cultivation of native species to produce higher-quality timber, with ample genetic variability and larger population.

NEXT STEPS

- Identify priority species for the conservation and expansion of the Germoplasma Databank;
- Mark selected seed bearers, collect seeds, produce seedlings and install new seed sources;
- Manage Germoplasma Databanks installed in the seventies, enhancing the quality of seeds whilst guaranteeing genetic variability, altering and transforming the production profile for the categories of Clonal Seed Orchards and Seed Production Areas.

Financial support required

20. SUSTAINABLE PUBLIC PROCUREMENT

NAME IN PORTUGUESE

"Contratações Públicas Sustentáveis"

RESPONSIBLE OFFICE

CPLA - Environmental Planning Coordination

HOW IT WORKS

Sustainable public procurements are a method of adding environmental and social criteria to decisions on the purchases and services hiring by the Public Administration. The aim is to maximize added value (utility, pleasure, user satisfaction, necessity, contributions to efficient operations) while also minimizing adverse environmental and social impacts. Recycled paper, organic food for school meals, furniture, hygiene and cleaning products, as well as office supplies are some good examples of goods through which public administration can influence consume, reflecting a more sustainable development and the maintenance of ecologic equilibrium.

GOALS

Considering the State's high acquisition power, prioritizing environmentally sustainable goods and services make suppliers seek innovative forms of production, since they will strive to meet the Public Administration requirements. Furthermore, the government, as an inductor of social and public policies, must serve as an example in this sense: institutional consumers must act in a responsible manner, considering their influence over the consumer market and the economy as a whole. The rational conservation of natural resources and the protection against environmental degradation must, in this way, strongly count with the support of the public administration.

Technical support to be offered

21. GREENHOUSE GAS EMISSION INVENTORY WORKING GROUP

NAME IN PORTUGUESE

"Inventários de Emissão de Gases de Efeito Estufa no Núcleo de Articulação Federativa sobre o Clima"

RESPONSIBLE OFFICE

São Paulo State Secretariat for the Environment - Climate Change Advisory

HOW IT WORKS

States/subnational inventories enable dicussions on climate public policies, providing inputs to sectorial plans, among others. This is based on the fact that each State has its own particularities regarding the inventoried sectors, besides the need for detailed and specific information on each State that is usually not reflected in the National Inventory.

An Inventory Working Group was created under the Federal Climate Coordination Center (NAF), as a guiding element for national decisions taken by the Inter-Ministerial Committee on Climate Change (CIM). The São Paulo State Secretariat for the Environment (SMA-SP), together with the Ministries of Science, Technology and Innovation (MCTI) and of the Environment (MMA) created this WG to conduct Greenhouse Gas Emissions Inventories within the Climate Federal Coordination Center. The proposal by São Paulo was to establish a small group, not necessarily including all federated States, to carry out an inventory exercise. The methodology would follow, as possible, the 2nd National Communication to the Climate Convention (UNFCCC), using locally disaggregated data (such as fuel sales provided by the National Petroleum Agency, land-use change by city or state, waste emissions based on census data, and eventually nationally registered emissions from industrial processes). With these first inventories ready, States (and ideally also municipalities) could then propose and apply refinements - including records.

The MCTI is developing the Platform for Development and Dissemination of Greenhouse Gases Inventories (PEDIGREE), which will provide disaggregated data by States (and possibly municipalities). Considering PEDIGREE is under development, an exercise of standardizing State inventories is required. State inventories do not currently compose the national inventory due to methodological barriers. Recognizing the fact that the State inventories not necessarily converge with the national one, carrying out local inventory exercises is important for the purpose of capacity building and understanding.

NEXT STEPS

Seek financial support for the development of State/regional and city/local GHG inventories across the country. These inventories would be the most disaggregated possible (i.e. States or municipalities) and coordinated centrally (ensuring methodological consistency and continuity over time, as well as reducing fragmented consultation services costs).

Financial support required

22. GREEN ETHANOL

NAME IN PORTUGUESE

“Etanol Verde”

RESPONSIBLE OFFICES

CBRN – Biodiversity and Natural Resources Coordination and CFA – Environmental Inspection Coordination

HOW IT WORKS

As the largest global producer of sugarcane ethanol, the State of So Paulo is a global reference in biofuels. Being an international leader in all the phases of the ethanol production chain, São Paulo has one of the cleanest energy matrixes in the world and is a pioneer in related research and development (R&D). Sugar cane currently represents the most efficient option for large-scale biofuel production.

Financial support required

GOALS

The main goal of the Environmental Strategic Green Ethanol Project is to establish a partnership with São Paulo’s sugar-energy sector to stimulate an even more sustainable production. The intention is to foster negotiations focusing on the sector’s cooperation and pro-activity.

Also, the project aims to establish clear and objective positive parameters which advance the sustainable production of ethanol, respecting natural resources and controlling pollution, without ignoring the needs of the population or harming development in that region. These parameters are designed in a way that guarantees the production of sugar, ethanol and bioenergy and that can be effectively applied and monitored.

NEXT STEPS

Seek financial incentives to undergo consultancy to evaluate the Green Ethanol Project’s impact on conservancy in São Paulo along these seven years of existence.

23. SUSTAINABLE GUARAPIRANGA

NAME IN PORTUGUESE

"Guarapiranga Sustentável"

RESPONSIBLE OFFICE

CBRN – Biodiversity and Natural Resources Coordination

HOW IT WORKS

The Guarapiranga watershed is a water catchment area of extreme importance for the State of São Paulo. It is a priority region for biodiversity conservation.

In the last years the Guarapiranga region has been suffering from disordered urban sprawl. Also, agricultural activities have been practiced without the necessary care and effective technical assistance.

This project aims to discipline land use in a manner that is adequate for the preservation, recovery and conservation of springs and, at the same time, increase the income generation of local producers. For this, the São Paulo State Secretariat for the Environment and the São Paulo State Secretariat for Agriculture and Supply have been working on incentives to promote the adoption of agricultural techniques with low environmental impact by local farmers.

GOALS

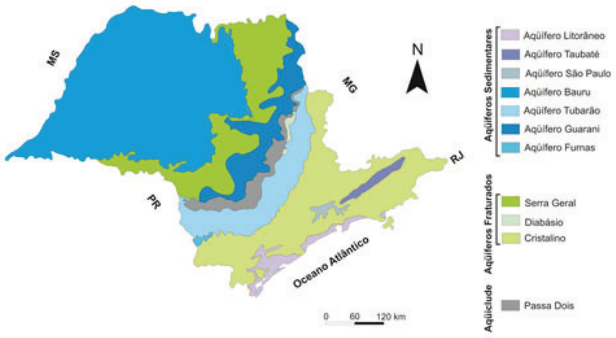
- Promote articulated actions which increase the competitiveness and environmental sustainability of family farming;
- Address problems related to trade by increasing access to specialized markets;
- Minimize negative impacts of conventional agriculture and disordered urban sprawl.

NEXT STEPS

- Set up an online database on sustainable agricultural production (scientific articles, practical experiences, technical articles, etc.);
- Support the structuring of multiple centers of the Guarapiranga Agroecology Network;
- Carry out studies to identify sustainable markets.

Technical support required

24. STATE GROUNDWATER PROGRAM



NAME IN PORTUGUESE

"Programa Estadual de Águas Subterrâneas"

RESPONSIBLE OFFICE

IG – Institute of Geology

HOW IT WORKS

Groundwater has a crucial importance because of its socioeconomic aspect, as well as its regulatory function of the rivers' hydrological regime. The State Law Nr. 6.134, enacted in 1988, sets forth the groundwater preservation and conservation of in the São Paulo State, and the State Decree Nr. 32.955, enacted in 1991, which regulates the law, both determine the elaboration of permanent conservation programs aiming to preserve groudwater use. Considering the legal provisions of the State Law Nr. 7.663, 1991, which established the Water Resources State Policy, the State Groundwater Program aims at protecting the aquifers, balancing socio-economic development and water usage and control, ensuring the adequate quality standards for current and future generations, across all the São Paulo State territory.

GOALS

- Establish regional/territorial guidelines, define strategies and implement actions for groundwater management, use and protection;
- Produce and disseminate information on the São Paulo State aquifers, promoting environmental education;
- Expand the integrated monitoring network of groundwater quantity and quality;
- Promote applied research in hydrogeology by integrating research centers;
- Promote training courses and capacity building on groundwater aimed at officers, researchers and users.

NEXT STEPS

- Consolidate a network of institutions focused on an integrated management of surface and groundwater;
- Search new partners to contribute to the project development, and to capacity-building activities;
- Seek financial support for the expansion of monitoring networks and for the development of research projects.

Technical support to be offered

Technical support required

Financial support required

25. STATE PROGRAM TO DESTINE AND COUNTER ILLEGAL WILDLIFE TRADE

NAME IN PORTUGUESE

“Programa Estadual de Destinação e Combate ao Tráfico de Animais Silvestres”

RESPONSIBLE OFFICE

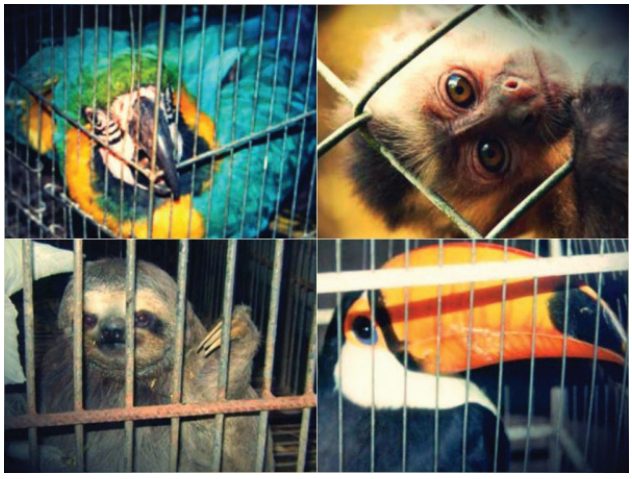
CFA - Environmental Inspection Coordination

HOW IT WORKS

In order to increase wildlife protection and strengthen actions that counter illegal wildlife trade, the Secretariat for the Environment and the Public Security Secretariat jointly developed strategies divided into three subprograms: preventing, managing and countering of wildlife trade. All activities are organized by a Steering Committee which represents different governmental organs and institutions.

GOALS

- Reduce the number of animals taken from nature;
- Prevent practices against wildlife;
- Expand the physical facilities and human resource capacity to receive, screen, rehabilitate and destine wild animals;
- Improve joint efforts by integrating institutions from the State of São Paulo and other States which work on this issue;



- Establish a flow of inter-institutional information between fauna management and inspection efforts, as well as a consolidated database;
- Promote preventive and educational actions to raise public awareness.

NEXT STEPS

Publish a norm which institutes the program and approve its working plan.

Technical support to be offered

Technical support required

Financial support required

26. RESEARCH MANAGEMENT SUPPORT IN CONSERVATION UNITS

NAME IN PORTUGUESE

"Sistema de Apoio à Gestão de Pesquisa em Unidades de Conservação"

RESPONSIBLE OFFICES

FF – Forestry Foundation

HOW IT WORKS

The Technical-Scientific Commission (COTEC) of the Forestry Foundation evaluates, analyzes and controls research developed in the Institute of Forestry and in conservation units managed by the Forestry Foundation. This way, it is responsible for the research activities that may occur in more than four million hectares of protected areas, distributed over more than 180 conservation units.

COTEC's main activities consist, thus, of the registration and analysis of scientific project carried out in protected areas of the State System of Forests (SIEFLOR) or developed by technicians of the Institute of Forestry.

GOALS

This Project aims at automating procedures of COTEC/IF/SMA with the internal public (COTEC managers, administrators of the conservation unis and scientific researchers, which act as referees, and SEAQUA - Environmental System of São Paulo) and external public (research promotion agencies, ICMBio, IBAMA and the Ministry for the Environment, as well as universities and other educational institutions, research institutions and students – Brazilian and international)

NEXT STEPS

- Minimal structuring of COTEC for the automation process and expected procedural alterations;
- Hiring technical service to assist in theautomation of COTEC procedures.

Financial support required

27. "BOTANICAL BIODIVERSITY AND ENVIRONMENT" POST-GRADUATE PROGRAM

NAME IN PORTUGUESE

"Programa de Pós- Graduação do Instituto de Botânica: Biodiversidade Vegetal e Meio Ambiente"

RESPONSIBLE OFFICE

IBt – Institute of Botany

HOW IT WORKS

This post-graduate program offers official Master and Doctor Programs since 2002, focusing on two main areas: non-vascular plants and fungi in environmental analyses and vascular plants in environmental analyses. The program currently has over 100 students and almost as many scholarships granted by research agencies such as CAPES, CNPq and FAPESP.

GOALS

i) Development of human resources: contribute to the training of specialists capable of taking on leadership positions in education, research and environmental management on a national level.

ii) Knowledge generation: especially regarding the wide variety of plant groups, including algae, cyanobacteria and fungi, in both terrestrial and aquatic ecosystems.

iii) Scientific research dissemination: throug thesis, dissertations, books and, especially, articles in national and international scientific journals, as well as knowledge transferal to the general public through articles, lectures, courses and congresses.

NEXT STEPS

- Continue to foster quality scientific research, as well as the training of professionals capable of assuming leadership positions in the country in the environmental sector;
- Conclude a program of specific databases to manage all information;
- In the future, create an information system which integrates registration information, scientific production of some students and professors and, finally, organizes the information to be made available to the public and for public policy design.

Financial support required

28. SÃO PAULO HERBARIUM

NAME IN PORTUGUESE

“Herbário SP”

RESPONSIBLE OFFICE

IBt – Institute of Botany

HOW IT WORKS

The “Maria Eneyda P.K. Hidalgo” Herbarium of the Institute of Botany had its origin in 1917 and is registered in the Index Herbarium under the initials SP. It brings together a collection of almost two centuries of samples of Brazilian flora, largely representative of the State of São Paulo. Today, it holds 460.000 dried plant specimens (moss, fern and phanerogams), algae and fungi, holding important historical collections. It is currently the third biggest herbarium in Brazil.

GOALS

- Maintain and improve the storage conditions of all these collections, optimizing space for improved management and organization;
- Make the most important material available for online consultation and digitalize the collections;
- Conclude the publication “Phanerogamic Flora of the State of São Paulo”;
- Update the 2004 list of flora species threatened of extinction in São Paulo.

NEXT STEPS

- Finish reorganizing the collection in the new building, which construction was finished in October 2013;
- Continue the digitalization process of the collection and disclose images and data for online consultations;
- Conclude the publication “Phanerogamic Flora of the State of São Paulo”, which since 2001 has published seven volumes containing 149 families of angiosperms and two of gimnosperms, 772 genera and 3.237 species, representing 43% of a total of 7.500 estimated species in the State;
- Update the list of flora species threatened of extinction in the State of São Paulo.

Financial support required

29. ORGANIC SÃO PAULO

NAME IN PORTUGUESE

"São Paulo Orgânico"

RESPONSIBLE OFFICE

CBRN – Biodiversity and Natural Resources Coordination

HOW IT WORKS

The project is an initiative of Secretariat for the Environment, developed in partnership with institutions from the organic sector. It seeks to identify and implement public policies which assist in expanding the market for organic and sustainable products in São Paulo.

GOALS

- Boost the production of organic and sustainable products in São Paulo, while also enhancing productivity;
- Bring producers and consumers together;
- Support farming without the use of artificial agricultural inputs, controlling plagues and diseases in the most natural way possible;
- Capacitate rural educational extension programs. The capacitation course in Organic and Sustainable Agriculture has the goal of qualifying technicians and researchers so they can assist farmers and develop research on organic production systems.

NEXT STEPS

- Strengthen the funding line FEAP ("Fundo de Expansão do Agronegócio Paulista"), directed at farmers, cooperatives and associations;
- Develop new capacity-building phases, with the participation of farmers and their organizations;
- Plan new events, such as workshops, seminars and gastronomic festivals.

Financial support required

30. TRAILS OF SÃO PAULO PROGRAM

NAME IN PORTUGUESE

"Programa Trilhas de SP"

RESPONSIBLE OFFICE

FF – Forestry Foundation

HOW IT WORKS

The Program aims at standardizing and strengthening the ecotourism product and service chain in Conservation Units and in the regions where they are located. The intention is to bring the population closer to protected natural areas through the interaction with nature, and also interlinking the diverse ecosystems of the State of São Paulo through its trails, identified by the label "Trails of São Paulo".

The Program has identified 40 trails, located in 19 Conservation Units, divided into three difficulty levels. These different levels allow the most diverse publics to participate, so that everybody has access to preserved areas, paths opened by colonizers, marine environments, rapids, waterfalls and beaches.

More than 200km of trails are mapped in a pocket book, similar to a passport, with information about the parks, maps and routes. There is space in the passport to stamp each trail that has been covered, and the eco-tourist feels rewarded for each step achieved.

A passport contemplating the diving routes in the Marine and Insular Conservation Units of São Paulo was also created, as a form of expanding the Program. This new passport contains eight diving routes in three Marine Conservation Units and two Insular Conservation Units.

Financial support required

31. FIRE-BLOCKING OPERATION

NAME IN PORTUGUESE

“Operação Corta-Fogo”

RESPONSIBLE OFFICE

CFA - Environmental Inspection Coordination

HOW IT WORKS

The concern over fire outbreaks in the State of São Paulo lead to the creation of this program, which aims to reduce wildfires and, in consequence, the negative impacts caused by them.

The first step consists of an initial diagnosis of the regions in the State of São Paulo with greater fire risk, in order to define the priority areas for the system.

In order to strengthen actions to be developed, the system is subdivided into four distinct action plans: prevention, monitoring, control and firefighting.

The strategies for the four action plans are developed, jointly, by diverse levels of government, members of the executive committee, being developed from subnational to local structures through the environmental councils.

GOALS

- Reduce fire outbreaks in the State of São Paulo;
- Reduce greenhouse gas emissions produced by fires;

- Protect areas covered by vegetation;
- Eradicate the irregular practice off ire use, in accordance with State Decree nr. 56.571;

NEXT STEPS

Seek partners that can help in:

- Capacity-building;
- Improvement of preventive infrastructure in protected areas;
- Development and implantation of preventive campaigns;
- Hiring of temporary fire fighters and expansion of the necessary equipment (vehicles, tools, aircrafts).

Technical support required

Financial support required

32. ECO-TOYROOM

NAME IN PORTUGUESE

“Ecobrinquedoteca”

RESPONSIBLE OFFICE

CEA - Environmental Education Coordination

HOW IT WORKS

The Eco-toyroom is a recreational space developed to foster contact with environmental issues within a public of all ages through the use of toys created from recycled materials.

GOALS

Work on issues such as recycling, solid waste, consumerism, among others.

NEXT STEPS

Knowledge to replicate capacity building on how to assemble and use an eco-toyroom.

Technical support to be offered

33. ZOO SCHOOL

NAME IN PORTUGUESE

“ZooEscola”

RESPONSIBLE OFFICE

Zoo Foundation

HOW IT WORKS

The project activities can be divided into two steps. The first one consists in training teachers on the functioning and structure of the Zoo Foundation, as well as on the general aspects of environmental education and basic actions to develop projects in schools. The second step involves the visit of each teacher to the Zoo with his students and, afterwards, the development of an educational project in the classroom, which is thereupon evaluated.

At the end of this process, teachers of different institutions can share experiences and improve their activities, promoting the reflection about creating environmental values.

GOAL

Understand and awaken the environmental consciousness in students from 1st to 4th grade, upon which the interaction between man and animal can establish itself based on the principles of respect, care, protection and kindness.

NEXT STEPS

Seek financial support to enable the project’s expansion, attending a higher number of schools and students

Financial support required

34. NEW MUSEOGRAPHY AT THE GEOLOGICAL MUSEUM

NAME IN PORTUGUESE

"Implantação de Nova Museografia no MUGEO - Museu Geológico e Mural do Tempo Geológico no Parque da Água Branca"

RESPONSIBLE OFFICE

IG – Institute of Geology

HOW IT WORKS

The MUGEO - Geological Museum is located inside the Fernando Costa Park, also known as the Água Branca Park, and receives annually around 50 thousand visitors. Its collection consists of geological equipment, photos, maps, rocks and fossils collections, and was established by the Geography-Geology Commission, created in 1886. MUGEO offers workshops to schools and organized groups, also promoting temporary and itinerant exhibitions. The project foresees expanding MUGEO by remodeling the annex building, modernizing the facilities currently used and including the necessary adaptations to ensure accessibility to disabled persons. A new museography to present the collection, in more interactive and didactic way is also planned.

GOALS

- Assemble a geological time scale over a 55m length wall;
- Exhibit the historical collection of the Geological Institute;
- Include the Acquis Sergio Mezzalira Paleontological Collection in MUGEO;
- Develop new specific projects - Pre-salt reservoirs: coast exhibitions (Geographical and Geological Commission); Geo-art: stone paths; booklet on landslides; lectures cycle on geosciences and the environment.

NEXT STEPS

- Search partners to support project development and capacity building;
- Financial support for the implementation of priority actions.

Technical support to be offered

Technical support required

Financial support required

35. EARTH CENTER AND GEOLOGICAL COLLECTION

NAME IN PORTUGUESE

"Centro da Terra e Litoteca"

RESPONSIBLE OFFICE

IG – Institute of Geology

HOW IT WORKS

The Earth Center will have a library specialized in Earth Sciences with technical publications and copies dating back as far as 1889 and a Capacity Building Center in geology and environment. This center will offer advanced training, free courses of different specialization levels on Geology and Environment for technicians and undergraduate students in the field of Geosciences. The Center of the Earth, to be used as a tool for scientific dissemination, comes to fill a gap in the geoscience area across the national territory, with quality educational programs for the population.
The LAB Litoteca (Earth Library) will hold the "Geological Scientific Collection of the São Paulo State" and the "Petrographic Scientific Collection", consisting mainly of petrographic samples and slides from researches carried out by the Institute of Geology over the last 30 years, including rocks, sediments and data from geological surveys of São Paulo State's subsoil, of great scientific value.

GOALS

- Expand the facilities and collections of the Center of Technical and Scientific Communications in Geoscience, following international patterns and with the purpose of disseminating geoscientific knowledge to the general public;
- Save and preserve petrographic samples and slides, making them available for consultation.

NEXT STEPS

- Search partners to support project development and capacity building;
- Financial support for the implementation of priority actions.

Technical support to be offered

Technical support required

Financial support required

36. FEPRAC - STATE FUND FOR THE PREVENTION AND REMEDIATION OF CONTAMINATED SITES

NAME IN PORTUGUESE

"FEPRAC - Fundo Estadual para Prevenção e Remediação de Áreas Contaminadas"

RESPONSIBLE OFFICES

Management Advisory of the Secretariat for the Environment and CETESB – Environmental Agency of São Paulo

HOW IT WORKS

The State Fund for the Prevention and Remediation of Contaminated Sites – FEPRAC is directly linked to the Office of the Secretary for the Environment. This Fund is aimed at identifying and remediating the so-called "orphan areas", sites whose legal owner could not be identified or has not implemented the necessary actions for rehabilitation.

Up to December 2012, the São Paulo State Registry of Contaminated and Rehabilitated Sites indicates a total of 4,572 sites that suffered modifications due to inadequate disposal of hazardous chemical waste. The São Paulo City, with 1,539 areas, holds 34% of the registered areas.

GOALS

FEPRAC resources are intended to support and encourage the management stages of contaminated sites, especially regarding identification and rehabilitation. Funds from FEBRAC may be requested by direct or indirect administration bodies or entities; inter-municipal consortiums; public service providers; private companies; and individuals.

NEXT STEPS

FEPRAC's revenue comes from budgetary provision or specific credits defined in the State budget; transfers from other State, Federal or Municipal funds; resources from international aid and cooperation; environmental compensations; fines for environmental damage, among other operations.

Financial support required

37. PROGRAMS IMPLEMENTED THROUGH THE STRATEGIC PROJECTS UNIT – GTAPE

GTAPE, the Strategic Projects Unit of the São Paulo State Secretariat for the Environment, is responsible for monitoring the implementation of governmental projects and/or programs receiving funds from international financial institutions or institutions controlled by the Union (be it in domestic or foreign currency). Below is a short description of the five projects currently being carried out with the assistance of GTAPE.

a. PROJECT FOR THE ENVIRONMENTAL RECOVERY OF SERRA DO MAR AND THE MOSAICS SYSTEM

GOAL

Promote the conservation, sustainable use, and environmental restoration of the bioma "Serra do Mar", the "Juréia-Itatins Mosaic" territory, and diverse Marine Conservation Units and their surroundings, all in the State of São Paulo. The program actions will generate social and environmental benefits and promote the effective protection of biodiversity and water sources that supply the metropolitan area of São Paulo and Baixada Santista.

COMPONENTS

i) Protection of Fully Protected Conservation Units;
ii) Social Investment in the Serra do Mar;
iii) Monitoring of Fully Protected Conservation Units.

PROJECT IDENTIFICATION

- Implementation: the State Secretariat for the Environment's tasks are carried out by the Forestry Foundation; the State Secretariat for Housing's tasks are carried out by CDHU (Housing and Urban Development Company of the State of São Paulo); and the Planning and Regional Development Secretariat's tasks are carried out by its Program Management Unit.
- Coordination: Planning and Regional Development Secretariat
- Funding: Inter-American Development Bank (IDB) and the Government of the State of São Paulo
- Project schedule: Five years, signed in 2010 and extended until 2016

b. SUSTAINABLE DEVELOPMENT PROGRAM FOR THE COAST OF SÃO PAULO GOALS

GOAL

Generate social benefits by eliminating housing and environmental loss in socio-environmental risk areas, promoting the protection of the biodiversity and the river basins at the Coast of the State of São Paulo, especially in Baixada Santista and at the Northern Coast, improving the conditions of housing attending social interests, consolidating Conservation Units management and extending social-environmental recovery actions towards buffer zones.

Specific goals

a) Apply instruments for territorial planning and monitoring of environmental impacts in order to prevent reoccupations and/or new occupations in 112 environmental risk areas;

b) Eradicate family occupations in high geotechnical and environmental risk situations by building 16.000 new housing units and attending 9.000 families with urbanization projects;

c) Consolidate Conservation Units protection and ecological recovery on the São Paulo Coastline;

COMPONENTS

i) Environmental Component;
ii) Housing Component;
iii) Management Component.

PROJECT IDENTIFICATION

- Implementation: the State Secretariat for the Environment's tasks are carried out, among others, by the Forestry Foundation; the State Secretariat for Housing's tasks are carried out by CDHU (Housing and Urban Development Company of the State of São Paulo); and the Planning and Regional Development Secretariat's tasks are carried out by its Program Management Unit
- Coordination: Planning and Regional Development Secretariat
- Funding: Banco do Brasil
- Project schedule: Five years, signed in 2013

c. SUSTAINABLE RURAL DEVELOPMENT AND ACCESS TO MARKETS PROJECT GOALS

GOAL

Support the State of São Paulo in increasing the competitiveness of family agriculture in its territory while improving its environmental sustainability.

Specific goals

Assist small-scale farmers and other rural producers to:

- Increase the productivity of their land and labor, and improve the quality of their products through enhanced production techniques;
- Engage more actively in supply/value chains is which there is a comparative advantage by undertaking basic processing and marketing techniques and/or strengthening partnerships with larger private operators in these areas;
- Strengthen the organizational and managerial capacity of producers associations, also promoting the emergence of new associations/cooperatives; and
- Mainstream improved land and water management practices tested under the previous operations for more competitive production systems.

PROJECT IDENTIFICATION

- Implementation: State Secretariat of Agriculture and Supply - State Rural Extension Directorate (CATI) and the State Secretariat for the Environment - CBRN – Biodiversity and Natural Resources Coordination (CBRN) as a co-implementing agency.
- Coordination: CATI
- Funding: International Bank for Reconstruction and Development and Government of the State of São Paulo
- Project schedule: Five years, signed in 2010 (two-year extension requested)

d. SÃO PAULO SUSTAINABLE TRANSPORT PROJECT

GOALS

Contribute to the improvement of the State's transport and logistics efficiency and safety while enhancing the State's capacity in environmental and disaster risk management.

Specific goals

- Upgrade selected key transport corridors including their rehabilitation and expansion, and mainstreaming transport planning and management;
- Capacity-building in land use planning and territorial management and regulation focusing on addressing environmental impacts in support of a greener and more inclusive growth;
- Improve the State's capacity to manage disaster risk, particularly risks linked to climate change in the transport sector.

PROJECT IDENTIFICATION

- Implementation: the Secretariat of Transport and Logistics (SLT) and the Road Agency (DER-SP) for the transport component; the Planning and Regional Development Secretariat (SPDR); the State Secretariat for the Environment and CETESB – the State's Environmental Agency for the land use planning and territorial management and environmental management component; the Institute of Geology for the disaster risk management component.
- Coordination: DER-SP
- Funding: IBRD – International Bank for Reconstruction and Development World Bank and Government of the State of São Paulo, counterpart funding - RTB and PETROBRÁS
- Project schedule: Five years, signed in 2013

e. SÃO PAULO STATE ROADS PROJECT

GOALS

Improve the efficiency of the paved municipal road network.

Specific goals (regarding institutional strengthening):

- Support the structure and management of the state investment program (SPDR)
- Support modernization of the Sate's environmental management system (SMA):
    a. Definition and implementation of a new infrastructure for environmental licenses (Project GAIA/CETESB);
    b. Integration, modernization and expansion of the information systems including referenced geo-referenced monitoring - Project DATAGEO/SMA; and
    c. Equipment.
- Support planning and logistics capacity in the transport sector (SLT).
- Support improved public sector execution capacity in the road sector (DER-SP)

PROJECT IDENTIFICATION

- Implementation: the Secretariat of Transport and Logistics (SLT) and the Road Agency (DER-SP) for the transport component; the Planning and Regional Development Secretariat (SPDR), the State Secretariat for the Environment and the State's Environmental Agency (CETESB) for matters regarding institutional strengthening.
- Coordination: DER-SP
- Funding: IBRD – International Bank for Reconstruction and Development World Bank and the Government of the State of São Paulo
- Project schedule: Five years, signed in 2009 and extended until 2015

TOPICS FOR SCIENTIFIC RESEARCH AND TECHNICAL CAPACITY BUILDING

Listed below are different topics indicating the main technical and academic areas in which the São Paulo State Secretariat for the Environment is interested in offering or receiving cooperation (although maybe not being related to any specific project yet).

Technical support to be offered

- **Climate Policies:** Definition, comparison, implementation and measurement; policies and energy plans; “white papers” elaboration.
- **Phycology:** Biotechnology of seaweed; identification of macro algae for the purposes of management, monitoring and control of invasive species; identification of algae with economic and biotechnology potential; etc.
- **Mycology:** Techniques for collection, preservation and identification of wood-decay fungi; disclosure booklet for recognizing native vegetation and future uses; bioindicators species identification.
- **Plant Physiology and Biochemistry:** Plants response to global climate change; bioprospecting of plant compounds with native flora biological activity; plants carbohydrate biotechnological potential.
- **Vegetal Taxonomy:** molecular and morphological phylogenetic taxonomy studies and biogeography of several vascular plants groups; floristic studies for the elaboration of localized species inventories; phytosociological studies on plant community structure, operation, dynamic, history, distribution and environmental relations.
- **Plant Anatomy and Morphology:** ecological anatomy for defining bioindicator species of oxidant pollutants and its use in air quality biomonitoring programs; anatomy of native and cultivated plants with economic potential for the pharmaceutical industry.
- **Palynology: Palynotaxonomy:** ferns and lycophytes pollen and spores study, contributing to vegetal taxonomy.
- **Melissopalynology:** honey and bee products botanical origins (bee pollen, propolis and geopropolis).
- **Aeropalinology:** Analysis of airborne pollen and spores and studies in pollen allergies.
- **Quaternary Palynology:** soil pollen and spores analysis providing data on climate change and vegetation.
- **Captive Wildlife Care:** support to wildlife related public policies; animal assisted reproduction technology, molecular biology research techniques with emphasis on wildlife, microbiology; environmental technology.

Technical support required

- **Combating Wildlife Trafficking:** tools and global strategies; technical enhancement; integrating prevention and destination sectors.
- **Climate Change Adaptation Plans:** end-use energy and sectorial mitigation projects; “white papers” elaboration.
- **Environmental Education:** indicators; methodologies for the society engagement in environmental management, including consultations and public hearings.
- **Phycology:** Biotechnology of seaweed; identification of macro algae for the purposes of management, monitoring and control of invasive species; identification of algae with economic and biotechnology potential; etc.
- **Mycology:** Techniques for collection, preservation and identification of wood-decay fungi; disclosure booklet for recognizing native vegetation and future uses; bioindicators species identification.
- **Vegetal Taxonomy:** Taxonomy, phylogeny and biogeography of vascular plants; floristic and phytosociology of vegetal formations in the Southeastern part of the country; curatorship of vascular plants herbarium collections.
- **Plant Anatomy and Morphology:** Pharmacology, food science, plant breeding, air biomonitoring.
- **Palynology:** Entomology, geology, medicine (allergies), soil science, forensic science, food science.
- **In-situ and Ex-situ Wildlife Management:** Wild animal reintroduction, environmental technologies, microbiology techniques, molecular biology and assisted reproduction.
- **Capacity Building for the Environmental Information Department officers:** This department has the following tasks: to promote the linkage between the various segments of society and the public authorities, by incorporating them in the process of environmental planning; to participate in the management of protected and environmentally strategic areas; to elaborate and propose guidelines for the use of environmental resources; and to support the elaboration of sectorial, regional and state environmental public policies.
- **Ecoefficiency (cleaner production):** Innovations and Sustainable Consumption and Production
- **Solid Waste:** Reduce waste generation, reuse and recycle materials.
- **Planning Tools for the Macrometropolitan area:** Instruments to increase the efficiency of government action and rationalize the use of public funds.
- **Support and development of monitoring technologies and tools:** Learn new inspection and monitoring technologies, procedures and information systems; training in classification of remote sensing products.
- **Courses on disaster prevention and risk mapping for geo dynamic events:** It should include practical exercises on risk mapping and analysis at regional (landscape approach) and local (empirical method integrated) scales through geo processing tools and field work. In addition, it should present examples of structural measures for risk reduction, organization and operation of civil defense contingency plans and institutional frameworks and risk perception models.

Financial support required

- **Combating Wildlife Trafficking:** services for the transportation of seized animals; operationalization of reception centres; acquisition wildlife management tools; development of handbooks of basic principles, training and course activities on wild animals identification and management; didactic material on the prevention of animal cruelty.
- **Environmental Education Projects:** Exchange of experiences on of Environmental Education methods at the regional/sub national.
- **Climate Policies:** Networks for the exchange of information, capacity building and dissemination; harmonization of national policies; exchange of experts with academic institutions; development of "white papers".
- **Phycology:** Biotechnology of seaweed; identification of macro algae for the purposes of management, monitoring and control of invasive species; identification of algae with economic and biotechnology potential; etc.
- **Mycology:** Techniques for collection, preservation and identification of wood-decay fungi; disclosure booklet for recognizing native vegetation and future uses; bioindicators species identification.
- **Physiology and Biochemistry of Plants:** plant responses to global climate change; bio prospecting plant compounds with biological activity from native flora; biotechnological potential of carbohydrates in plants.
- **Vegetal Taxonomy:** Studies of taxonomy molecular phylogeny and morphological and biogeography in several groups of vascular plants; floristic studies with the preparation of inventories of species that occur in a given area; phytosociological studies for knowledge on the structure, functioning, dynamics, history, distribution and environmental relations of plant community.
- **Anatomy and Morphology of Plants:** ecological Anatomy for defining species bio indicator plant pollutants oxidants and its use in bio monitoring programs air quality; anatomy of native and cultivated plants with economic potential for the pharmaceutical industry.
- **Palynology:** Palynotaxonomy: ferns and lycophytes pollen and spores study, contributing to vegetal taxonomy.
- **Melissopalynology:** honey and bee products botanical origins (bee pollen, propolis and geopropolis).
- **Aeropalinology:** Analysis of airborne pollen and spores and studies in pollen allergies
- **Quaternary Palynology:** soil pollen and spores analysis providing data on climate change and vegetation.
- **Watershed Monitoring and Inspection Assessment:** periodic satellite acquisition imagery and strengthening of aerial monitoring actions.
- **Support and development of remote monitoring technologies and tools:** implementation of advanced monitoring systems with simultaneous remote sensing that are locally distributed.