SOCIEDADE DE PESQUISA EM VIDA SELVAGEM

SPVS

E EDUCAÇÃO AMBIENTAL

Environmental Conservation and "carbon sequestration"

In the Brazilian Atlantic Rainforest, SPVS is hard at work on the protection of one of the richest and most endangered ecosystems on the planet. From 2000 on, the efforts implemented by the institution to conserve the environment have gained added strength with the introduction of projects targeted at the environmental restoration of degraded areas. These initiatives will also contribute to the fight against global warming, by means of "carbon sequestration" strategies.

Original area of Atlantic Rainforest domain

Why the Atlantic Rain Forest?

Recognized by UNESCO as one of the planet's areas most deserving of conservation, the Atlantic Rainforest is home to 171 of the 202 Brazilian endangered species . Guaraqueçaba's EPA where SPVS develops its carbon sink projects is in the midst of the largest portion of this ecosystem still reasonably preserved. Even though it is protected by federal laws, the area has been the victim of great environmental damage in the last years, due to the lack of efficient management and, also, because of poor surveillance on the part of official authorities.

Among the economic activities causing the greatest impact on the area are the illegal cutting down of heart-of-palm trees, illegal logging activities, conventional agriculture and the clearing of great areas for buffalo grazing pastures.

The projects developed by SPVS aim at finding alternatives to these activities, which are compatible with environmental conservation, such as organic farming, the sustainable management of the buffalo farms and the natural resources. Together with schools and communities, the institution seeks to make people aware of the importance of protecting the environment, by means of programs and activities that deal with environmental education.

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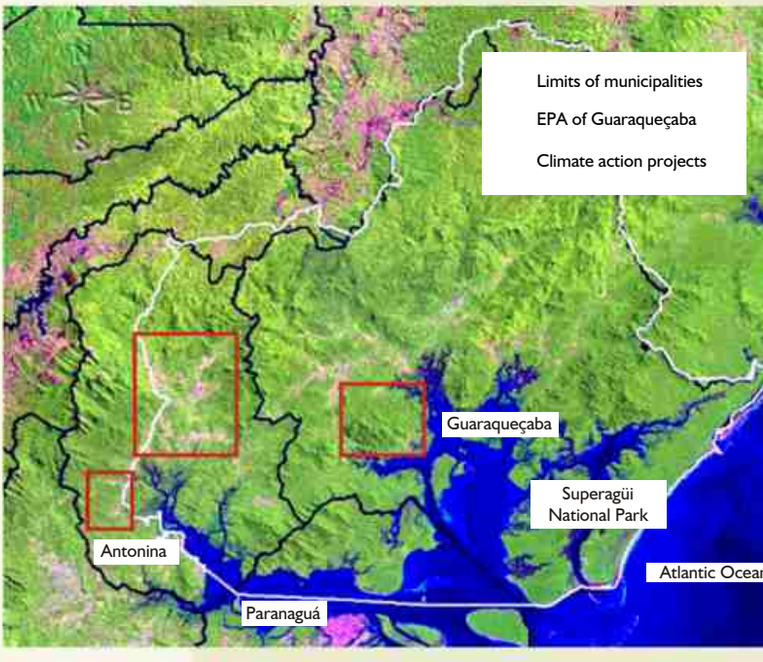
WHO WE ARE

SPVS - The Society for Wildlife Research and Environmental Education is a Brazilian non-governmental organization headquartered in Curitiba, the capital of the State of Paraná, dedicated to the conservation of natural ecosystems. Its actions are focused on the protection of the Atlantic Rainforest, in an area encompassing the EPA (Environmental Protection Area) of Guaraqueçaba, on the coast of Paraná, in southern Brazil - a region that is

home to one of the richest examples of the biodiversity on the planet.

Besides other activities in the EPA, SPVS is responsible for the development of three projects in Paraná coastal area. These initiatives are part of the context of the "Clean Development Mechanism" - an instrument foreseen by the Kyoto Protocol, and aim at fighting the effects of global warming, according to the goals set by the United Nations Framework Convention on Climate Change.

EPA OF GUARAQUEÇABA



PROJECTS

Planned to be developed along four decades, SPVS's projects for fighting global warming have as target capturing about 2.5 million tons of carbon from the atmosphere, which may provide credits for the investors, under the conditions of international and Brazilian regulations not yet defined. The "carbon sequestration" projects developed by the institution will also restore degraded areas of the Atlantic Rainforest, protect the fauna and the flora and look for alternative income-generating activities for the communities that are affected by it.

For the projects' management, SPVS has, as major partner, one of the most important conservation institutions in the world - The Nature Conservancy - which provides technical assistance in the planning and execution of actions, in addition to being responsible for raising and managing the financial resources that make the development of the projects possible.

1 The Guaraqueçaba Climate Action Project

Area:	Serra do Itaqui Natural Reserve (7 thousand hectares)
Location:	municipality of Guaraqueçaba
Partner:	The Nature Conservancy
Financed by:	American Electric Power (USA)
Budget:	US$ 5.4 million
Start date:	July 1, 2000
Duration:	40 years

2 The Atlantic Rainforest Restoration Project

Area: the Cachoeira River Basin (12 thousand hectares)	
Location:	municipality of Antonina
Partner:	The Nature Conservancy
Financed by:	General Motors (USA)
Budget:	US$ 10 million
Start date:	July 1, 2001
Duration:	40 years

3 The Antonina Pilot Reforestation Project

Area:	Morro da Mina Reservation (one thousand hectares)
Location:	municipality of Antonina
Partner:	The Nature Conservancy
Financed by:	Texaco (USA)
Budget:	US$ 3 million
Start date:	January 1, 2002
Duration:	40 years

OBJECTIVES

The benefits of SPVS' projects go beyond those provided by reforestation initiatives alone. They seek to restore Atlantic Rainforest degraded areas by planting native species and by establishing environmental conservation programs.

- Restoration of degraded forest areas
- Enhancement of secondary forests
- Protection of forests (avoid deforestation)
- Conservation of biodiversity
- Sustainable Development (alternative sources of income for the communities that live in the surrounding areas)
- Carbon credits

FEATURES

Clean-Development Mechanism (CDM)
These 3 projects developed by SPVS are backed by the CDM - Clean Development Mechanism, an instrument of the Kyoto Protocol, which will help reducing and mitigating the emission of gases that cause the greenhouse effect and, consequently, will help fighting global warming as well. With financial support from enterprises from countries in the Protocol's Annex I, CDM encourages the installation of "carbon sinks" projects in developing countries, mirroring SPVS' projects.

Additionality
In addition to helping with the capturing of carbon dioxide, SPVS's projects will contribute towards preventing this and other gases that cause the greenhouse effect from leaking into the atmosphere. The actions in course in the Atlantic Rainforest will also help revert a local trend towards clearing forest areas for the development of economic activities like logging and buffalo farming. Without the interference of the projects, environmental degradation would be greatly increased in the area.

Scenario 1 without the projects' interference	Scenario 2 with the projects' interference
Areas with economic activities tend to remain without forests	Restoring the deforested areas
Flat areas near rivers and roads are at high risk of being deforested for the introduction of economic activities	Protecting the areas at high risk of being deforested, by means of establishing private reserves
Lack of economic alternatives contribute toward deforestation	Proposing economic alternatives that are compatible with environmental conservation
Threat to the forests and rivers due to excessive grazing by buffalo (with no area delimitation)	Providing farmers in the area with the necessary techniques and assistance for the implementation of land management that is compatible with environmental conservation
Acceleration of the degradation process in private areas and an ensuing drain on natural resources	Monitoring the trends (GIS) and the stimuli towards conservation practices.

Baseline
As a reference for predicting on the carbon amount to be captured as a result of the projects, a survey is being made in order to evaluate the current situation of the areas under SPVS management. Using geographical information techniques, and based on the land use pattern tendency, the survey will allow estimating the areas potential as carbon absorbers.

Carbon monitoring
In order to keep track of the carbon-sequestration potential, permanent sample plots are being set aside to allow measuring the carbon amount fixed into the vegetal biomass in the areas where the projects are developed. The monitoring is based on Winrock International methodology, widely recognized for its quality and efficiency at this type of activity.

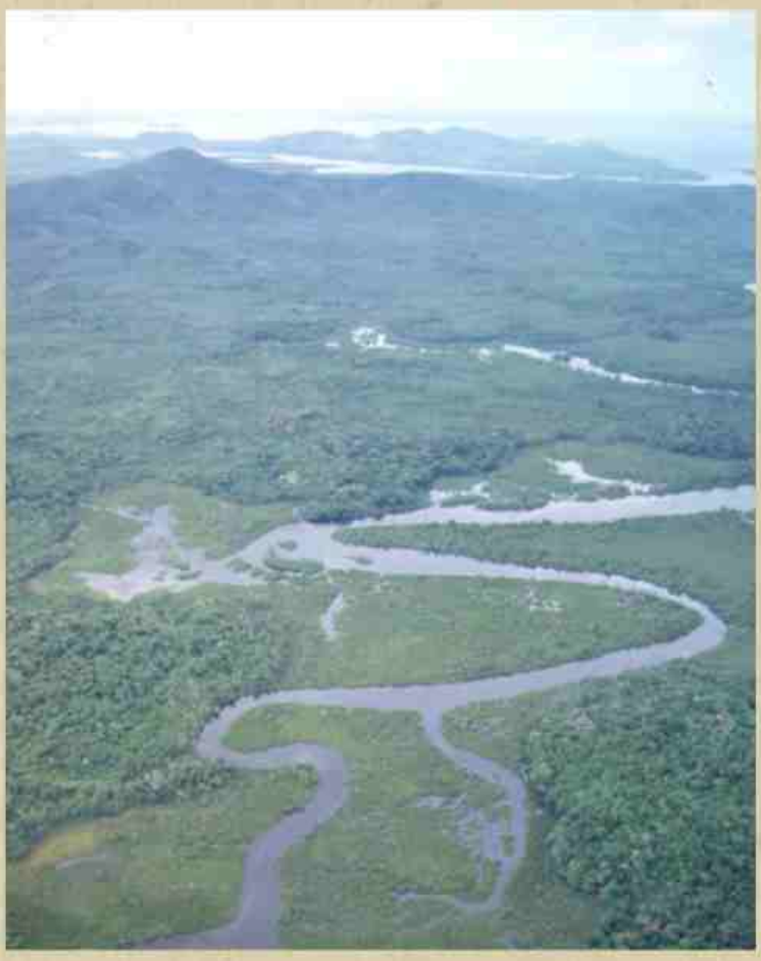
Permanence
The three projects are being developed on farms originally used for buffalo farming practices - which were purchased by SPVS. These areas will be registered as private reserves - an instrument foreseen by the Brazilian legislation in order to encourage the establishment of environment conservation areas, and ensure that they will not be used for a different purpose in the future. In addition, the projects also foresee the creation of an endowment fund to extend and guarantee the management of the reserves beyond the planned 40-year period.

Carbon leakage
As an incentive to lowering the leakage of greenhouse-effect gases into the area where the projects are being developed, especially Guaraqueçaba's EPA, SPVS works hard at preventing the environmental damage that was avoided through the projects from being transferred to other areas. Besides, it also encourages the establishment of economic activities that will cause little or no impact on the environment, thus seeking to increase productivity, without over-expanding the areas.

Additional benefits
In addition to the restoration of an important segment of the Atlantic Rainforest, environmental conservation and the promotion of sustainable development on the area, these projects bring other benefits.

- generation of jobs. Usually, work positions required for the execution of the projects' activities are larger in number than those necessary to perform buffalo-farm activities, for example. Among other benefits, actions which are part of the projects - research, planning and the establishment of private reserves - also contribute to:
- the preservation of the sources and rivers that supply the area's communities with water;
- the restoration and protection of river banks, which will, as a result, help prevent further damage to the environment (like the silting up of bays);
- the production and distribution of technical information - an important item in the implementation of public policies - such as charts and theme maps.

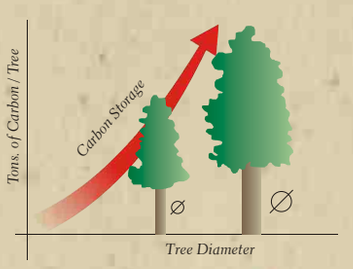
GREENHOUSE EFFECT, GLOBAL WARMING AND CARBON SEQUESTRATION



Carbon Sequestration

As it develops, the forest contributes towards removing carbon dioxide from the atmosphere. Carbon dioxide is one of the gases responsible for the greenhouse effect - a natural phenomenon that, when intensified, contributes to global warming.

CARBON MONITORING



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