

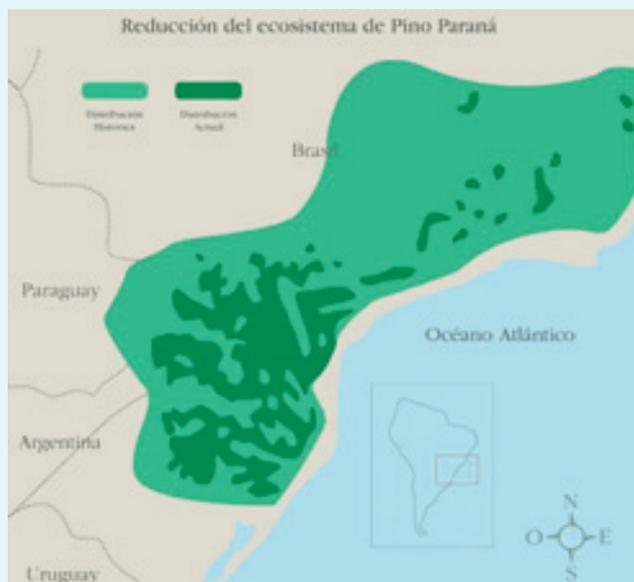
Education for Conservation of the Paraná Pine Ecosystem in Misiones, Argentina

by Soledad Magallanes | BIOLOGIST | DEPARTMENT OF RESEARCH AND CONSERVATION | FUNDACION TEMAIKÈN | ARGENTINA

The Paraná pine forest ecosystem is located in Misiones, containing a large number of species that are only distributed in this part of Argentina. Nowadays, this ecosystem is only represented in two Provincial Reserves. The Temaikèn Foundation is committed with biodiversity preservation through the expansion and management of natural reserves, in which research and education play a key role.

Fifty years ago over 210,000 hectares in Misiones was covered with Paraná pine. Nowadays, this area is reduced to around 2.000 fragmented hectares, 524 are protected as part of the 'Araucaria Provincial Park' (92 hectares) and 'Cruce Caballero Provincial Park' (432 hectares), both natural reserves. Human beings have been related to this ecosystem for hundreds of years and numerous ethnic groups have developed their culture here, obtaining food and protection resources from this rainforest. The challenge of the Paraná Pine Conservation Program is to preserve and expand these isolated areas and to manage attitudinal change in the people who are immersed in this habitat.

A fragmented Paraná pine ecosystem.



A degraded ecosystem.



Threats

The timber industry has caused a reduction of many tree species; the best seedbeds are disappearing and disrupting the composition of the forest.

Two important threatened species found in this ecosystem are the Paraná pine (*Araucaria angustifolia*) and vinaceous breasted parrot (*Amazona vinacea*).

In San Pedro, as in a considerable part of the Paraná pine forest, conservation problems come from social issues. Land is used mostly by timber and tobacco industries, where local people look for short term profits just to satisfy their needs. This results in soil degradation and deforestation of additional forest areas.

Goals

The general objectives of the program are to contribute to the conservation of the Paraná pine ecosystem, especially the populations of Paraná pine and vinaceous breasted parrot and to make people aware of conservation problems.

Using play in developing conservation understanding.



Flying the kite for conservation.



To achieve these goals Temaikèn Foundation is working on four main aspects:

1. To protect areas of the Paraná pine forest those are currently intact.

Since November of 2007 the program is participating in the co-management of the last and most important Araucarias' forest areas; Cruce Caballero and Araucaria provincial parks. This is the first time in Argentina that a co-operation agreement between Misiones provincial government and a foundation has been signed. Park rangers from both areas work in partnership in both research and education activities in this program.

2. To reconstruct the degraded ecosystem.

In order to develop new sowing areas, performance tests have been run since 2005 to assess the performance of different kinds of substrate for the seeds of *Araucaria angustifolia*, all taken from provincial parks. Tests consisted of changing the light intensity and the substratum, to evaluate the power of germination and the viability of the seeds. Two hundred seeds of Paraná pine from Cruce Caballero were sowed, as part of the program of the Educational Training Course.

3. To ensure plant and animal reproduction

Since 2006, 731 seeds of *Araucaria angustifolia* from Misiones were seeded in Temaikèn and 80 Paraná pine saplings were planted in Misiones. The

Paraná pine (*Araucaria angustifolia*).



remaining trees will be planted in the ecosystem over the coming years.

In 2006, nine vinaceous breasted parrots that were pets in San Pedro were saved by rangers and taken to Temaikèn as part of a behavioral study. Up to now, two reproductive couples have successfully raised three chicks.

4. To make people aware of the importance of preserving the ecosystem.

The Temaikèn Foundation develops and gives advanced training courses for teachers and rangers. These courses are supported by the government and have been declared a Municipal Interest by the Sport, Tourism and Culture Direction of the Municipality of San Pedro and a Provincial Interest by the House of Representatives of the Province of Misiones.

Vinaceous breasted parrot (*Amazona vinacea*)





The aim of the advanced teacher training course called 'An Approach to the Paraná Pine Ecosystem' is to facilitate a deeper understanding of the Paraná pine forest, thereby promoting the appreciation of the flora and the fauna of this particular ecosystem, through increased knowledge about representative species such as the Paraná pine and the vinaceous breasted parrot. Sharing knowledge with course participants about the characteristics of the components that integrate this ecosystem; the critic situation, and the importance to act quickly is paramount. Revaluing the special atmosphere that surrounds them and to find in it an educative tool, allows them also to implement interdisciplinary activities and topics. Topics include the general characteristics of plants, with an emphasis on the Paraná pine; general characteristics of birds, mainly of the vinaceous breasted parrot; and considering all the aspects related to the conservation of the ecosystem, including the social issues.

During the second stage we visited the schools of the teachers who participated in the course, sharing diverse playful-educational activities with their students. Didactic material is given to the schools and Paraná pine seedlings produced in Temaikèn nursery are planted with all the school community. In only three years we visited 80% of San Pedro's schools. With the pupils we have planted 180 Paraná pine sapplings at the schools.

We have reached 86 teachers and 3160 students from 37 schools. 48.8% from them are rural schools.

Since 2005, the Temaikèn Foundation has taken part in the 2nd Celebration of the Araucaria Ecosystem, in San Pedro (Misiones), offering different activities for schools and families in order to encourage appreciation of the ecosystem, with the intention of making people aware about the urgency to take actions.

Since 2005, we have developed and ran courses for rangers. During the First Meeting for Rangers on 'coordination of the recreational activities in Protective Areas', we worked together with 76 rangers and advanced level students pursuing this as a career. Now, the Temaikèn Foundation is designing different plans that involve the sustainable use of resources in order to improve the relationship between the community and the environment. We consider that this the key to preserving this ecosystem. Carrying out these kind of tasks together with the community, being sensitive to and respectful of its culture and social reality, allows us to believe in a positive change of the way that we are connected with the environment.



Author Contact Details:

Soledad Magallanes | smagallanes@temaikèn.com.ar