

Save Palo Verde Campaign: conservation finance via text messages

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Case Studies

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The protected area of Palo Verde National Park (Palo Verde NP) is located in the province of Guanacaste, Costa Rica and is made up of a great variety of habitats, such as wetlands, rivers, mangles, meadows, dry forests and calcareous hills, in which there is a wide variety of animal and plant species. This area represents the preferred place to take in migrating birds in the Central American region and additionally it provides various ecosystem services which include the supply of water to human settlements and productive zones, and the adjustment of the water cycle.

Unfortunately, in 2012 Palo Verde NP continued to face a major problem of proliferation of facultative species, which included the typha (*Thypha dominguensis*) which presence altered its wetlands. This problem required an immediate action that could not depend on bureaucratic procedures of a public management system that had shown, up to that moment, not to have the capacity to deal with it in an integral way. Because of this in April 2012 the Save Palo Verde Campaign was launched. It was a fundraising effort from the Forever Costa Rica Association and Teletica Canal 7 (Costa Rican broadcaster). The objective of the campaign was to collaborate in the restoration and conservation of a vast part of the Park, by means of the donation of the necessary machinery to control and eradicate those species, the ones that were considered the major menace for its conservation.

The antecedents, details, and results of the campaign are narrated in this case study, which is considered successful, not only because of the objectives reached, but because through the campaign, private and public companies joined efforts in favor of conservation, something that had no precedent in Costa Rica until then.

1. Conservation in Costa Rica

Through the National System for Conservation Areas (SINAC in Spanish), the Ministry of Environment and Energy (MINAE in Spanish), administers the biological riches of Costa Rica, contained in the protected areas of the country. The SINAC was legally constituted by article 22 of the Biodiversity Law No. 7788, of 1998. This law defines the SINAC as a “decentralized and participatory MINAE system of institutional management that integrates fields in forestry, wild life, water systems, and protected wild areas, with the objective of pronouncing policies, planning, and executing processes addressed to obtain sustainability in the management of natural resources in Costa Rica”.¹ Additionally, the SINAC was conceived as an integral conservation concept joining actions of the State, society, private companies, and each individual concerned in the conservation of Costa Rican natural capital.²

In 2014, the SINAC has 28 natural Parks and various biological and forest reserves under its care, which are classified in different management categories (Annex 1) and are territorially organized in eleven areas of conservation (Annex 2).

25% of Costa Rican territory fits into one of these protection categories. This percentage can increase if the private reserves especially dedicated to ecotourism and research were included. This is a conservation effort that few countries in the world have carried out and in which Costa Rica has invested lots of financial and human resources, for the wellbeing of present and future generations.

As for the legal frame for the conservation and sustainable use of biodiversity in Costa Rica, it can be said that it is very broad, in particular because of the Biodiversity Law, approved in 1998, of which the formulation was done by a participatory process at both local and national levels, oriented by the National Conservation and Sustainable Use of Biodiversity Strategy, which was completed and was made official in 1999. The Biodiversity Law establishes that the National Commission for Biodiversity Management (CONAGEBIO) together with the SINAC is responsible for the administration of natural resources in the country. And, in addition to the national activities in legal issues, on an international and regional level there are various treaties signed and ratified by Costa Rica, such as the Biological Diversity Convention (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), as well as the Ramsar Convention on Wetlands among others.³

According to Alexander León Campos, Director of the Arenal Tempisque Conservation Area (ACAT), approximately 70 to 80% of the SINAC funding comes from Government transferences, while the rest is obtained from the payment of tickets to the conservation areas (Park Funds), as well as from international cooperation. The Government and its offices have decided to collaborate closely with the Forever Costa Rica (CRXS) in order to manage some of those international funds. It is necessary to specify that up to 2014 there are at least thirteen international cooperation projects going on, among which, there is a loan with the Inter-American Development Bank for 25 million dollars, framed within the project to boost the Tourism Program in Protected Wild Areas, which intends to increase sustainable tourism in the most visited areas of the country.⁴

2. Forever Costa Rica

Forever Costa Rica (CRXS) is a private NGO established on November 18, 2009, aimed at contributing to the conservation of Costa Rica’s natural patrimony⁵. From the beginning, the CRXS has operated as an Environmental Fund, which main objective is to collaborate so that Costa Rica’s government can meet the national conservation goals, related to the Work Program for Protected Areas from CBD, which have not been met because of budget limitations. It is for this reason that the CRXS administers both the “Irrevocable trust fund Costa Rica Forever” and the “II Debt for Nature Exchange Among the US and Costa Rica” Trusts. These trusts have the joint goal of contributing to financing the land and marine protected areas in the country. All this is done under the main lines of work and objectives that are mentioned below:⁶

1 <http://www.sinac.go.cr/documentacion/Planificacin/Plan%20Estrat%C3%A9gico%20Institucional%20SINAC%202010-2015.pdf>

2 <http://www.sinac.go.cr/conozcanos/Paginas/default.aspx>

3 http://www.inbio.ac.cr/es/biod/bio_biodiver.htm

4 Interview with Alexander León Campos, Director of Tempisque Conservation Area. San José, March.2014

5 <http://costaricaporsiempre.org/en/the-association.aspx>

6 Ibid.

1. Ecological Representation of the protected areas

- a) Improve the ecological representation and integrity of continental biodiversity, incorporating among the wild protected areas system approximately 0,5% of continental territory.
- b) Improve the ecological representation and integrity of coastal-maritime biodiversity, by incorporating the most important coastal-marine ecosystems into the protected areas system.

2. Effective Management

- a) Ensuring that the protected areas are effectively managed, that is, that the conservation objectives for which they were created are accomplished. That is why the CRXS pretends that:
- b) 100% of protected areas, created or increased with the support of the CRXS have the planning instruments that allow efficient and effective administration according to their management objectives.
 - i. The wild protected areas should be doubled in relation to the ones that existed in 2009.
 - ii. 75% of the wild protected areas existing in 2009 systematically evaluate their management efficiency.
 - iii. 57 protected areas existing in 2009 increase their efficiency in management to acceptable or superior levels.

3. Climate Change

- a) Develop a complete baseline in order to design, starting in 2015, the climate change mechanics and adaptation plans in Costa Rica.
- b) Identify the adaptive capacity to climate change of vulnerable ecosystems, together with potentially viable adaptation measures, in relation to the protected areas system.
- c) Develop an adaptation strategy for the Land Protected Areas towards the potential impacts generated by climate change on diversity and its ecosystem services.

In order to achieve the previous goals, on July 27th, 2010, the CRXS submitted a Cooperation Convention with the NCSA, in which both parts commit to implement a five year Execution and Monitoring Plan, in order to turn Costa Rica into one of the first underdeveloped countries to meet the goals of the Program of Work on Protected Areas of the CBD of 1992. In 2014 there were more than 75 projects or activities related to the protection or conservation of protected areas and over a million dollars were received to increase their field of action.

3. Palo Verde National Park⁷

Palo Verde lake and its surrounding areas were declared wild life shelter in 1977 and it was named Refugio Dr. Rafael Lucas Rodríguez. In 1978 an area known as Catalina was declared as Palo Verde National Park and it was merged with the Refugio Dr. Rafael Lucas Rodríguez, ending up in what is known today as Palo Verde NP.

Palo Verde NP was created by the Decree No. 20082-MIRENEM of December 10th, 1990. It has an extension of 19.800 hectares, an average temperature of 28 °C, and an average annual precipitation of 1.230mm. It is located between the Bebedero and Tempisque rivers, a region referred to as the Low Tempisque Basin, in the Bagaces canton, province of Guanacaste, about 20 kilometers from that city (Figure 1). Palo Verde NP is set on a dry tropical forest region, and it covers a series of six wetlands that are part of a group of marshes, lakes, estuaries, rivers, and brooks, in the Low Tempisque Basin. These water ecosystems are reduced and some completely disappear during the dry season, clearly showing a seasonal nature.

It is important to highlight the fact that historically, this land had been a ranch that was home to 12,000 cattle which, for the most part, were adapted to temporary floods in the place that generated a biological control to the facultative plant species. On the other hand, some cattle brought from other regions of the country, preferred to stay on the borders of the lakes and its presence negatively affected the dry forests. There was then a contrast between the advantages and disadvantages of cattle in the region.⁸

When the area became a shelter for wild life, restricted access of cattle was allowed. But when it was declared a National Park, pasturing was prohibited and the wetland suffered serious effects to its natural conditions, because of the increase of facultative plants such as typha and prickly shrub (*Mimosa pigra*). These plants covered most of the water bodies, causing the migratory birds to stop coming and, at the same time, an increase in the risk of fire because these plant species are combustible and conduct fire even over water. Because of these facts, the wetland

⁷ <http://www.sinac.go.cr/AC/ACAT/PNPaloVerde/Paginas/default.aspx>

⁸ Informe Misión Ramsar 1998. Available at: http://www.ramsar.org/cda/en/ramsar-documents-rams-mision-ramsar-de-16021/main/ramsar/1-31-112965E16021_4000_0__



was included in the Montreux Register, which groups the Ramsar places in which urgent attention is needed in order to guarantee its conservation.⁹

In 1985, due to these serious difficulties, authorities recognized that the extraction of cattle at Palo Verde NP had been a mistake and, protected by a special permit, established agreements with ranchers of the region so that after paying a fee, these could leave their cattle in certain areas of the Park in a periodical and controlled manner. In relation to this matter, in the 90's a group of scientists questioned this kind of use because they considered it adverse to the proper characteristics of a National Park, such as a strictly conservation category.¹⁰

The evidence reported by the studies and the experience made it clear that Palo Verde NP had some special conditions that should be attended to in a different way, and so, in spite of the controversy in 1988 the MINAE emitted Decree No. 27345, in which the active management of the Park was established. This management includes a combination of methods of planned intervention and are addressed to the ecological restoration, including: pasturing, *fanguero*,¹¹ weeding and trimming grass, estuary rehabilitation, introduction and water control, controlled fire, earth movements, and other necessary means to restore the affected ecosystems.¹²

In 2014 the controversy goes on, on one hand because of the presence of cattle and on the other, because of the machinery. Nevertheless, there is more and more consciousness of how essential it is to have an active management and thus, about 1,500 cattle come into Palo Verde NP each year. For this reason, temporary contracts have been signed so that tractors can do *fanguero* in the area but still, the wetland has not reached the ideal conditions of the days as a ranch.¹³

3.1. Biodiversity at Palo Verde NP

The two main areas of life that are part of Palo Verde NP, dry forest and wetlands, boost the existence of twelve different plant communities, in which up to now, more than 750 plant species have been identified. Among those species, the most outstanding is the palo verde (*Parkinsonia acuelcta*), a species that gives the Park its name, a bush that keeps its leaves and branches green color all year round. Other important plants that may be found

⁹ Ibid.

¹⁰ Interview with Alexander León Campos, Director of Arenal Tempisque Conservation Area. San José, March.2014.

¹¹ Fanguero/deep plowing is a term taken from rice plantation that consists of beating the soil surface with a tractor that has iron wheels in order to aerate it and incorporate the straw and stubble left from harvesting with a combine harvester. For the case of the restoration of the wetlands, the wheels are used for cutting and grinding typha.

¹² Decree N.. 27345-MINAE. Establishes an Active Management Policy in the wetlands of Palo Verde NP and pasturing areas. It creates a Consulting Committee.

¹³ Interview with Alexander León Campos, Director of Tempisque Conservation Area. San José, March.2014.

in the Park are: pochote (*Bombacopsis quinatum*), bitter cedar (*Cedrela mexicana*), guayacán real (*Guaiacum sanctum*), cocobolo (*Dalbergia retusa*), laurel (*Cordia alliodora*), tempisque (*Maschitodendro capiri*), white guanacaste (*Albizia caribea*), saman (*Pethecellobium saman*) and guanacaste (*Enterolobium cyclocarpum*).

Birdlife in Palo Alto NP is the most noticeable. There are over 280 local and migrant birds, some in danger of extinction or with highly reduced populations, such as the red limpet (*Ara macao*), the peacock (*Crax rubra*), the toledo (*Criroxiphia liniaris*), the galán sin ventura (*Jabirú mictéria*), the falcon (*Polyboris plancus*) and the duck (*Anassp*) and the heron (*Casmerodius albus*).

As for the mammal population, these are varied and abundant, deer (*Odocoileus virginianus*) are highlighted, peccary (*Tayassu tajacu*), ocelot (*Felis pardalis*), coyotes (*Canis latrans*), pumas (*Felis leopardus*), tolomucos (*Eira barbara*), guatusas (*Dasyprocta punctata*) and tepescuintles (*Agouti paca*).

Finally, the herpetofauna is also very diverse at the Park, there are crocodiles, iguanas, different kinds of frog snakes, as well as other snake species, for example bequer (*Boa constrictor*), rattle snake (*Crotalus durissus*), and coral snake (*Micrurus nigrocintus*). Lastly, among the amphibians there are large populations of frogs and toads, typical of wetlands.

Apart from being the perennial habitat of many kinds of animal and plant species, Palo Verde is recognized for being a hibernation spot for thousands of birds that migrate from the northern hemisphere during the Winter septentrional season. Other aspects that make Palo Verde a natural importance for Costa Rica and the world are:¹⁴

- Since 1991 it is a Ramsar Place of international importance.
- Bird Island, the place with the highest concentration of water bird species in Central America is under its jurisdiction.
- It is one of the last three remains of the dry tropical forest that there are in Mesoamerica.

3.2. State of Conservation

Even though up to 2014 Palo Verde NP has had important improvements in order to restore its natural conditions and revise its management strategies; it still faces various internal problems related to its administration. Among them, the first one is insufficient availability of personnel from SINAC to work in the Arenal Tempisque Conservation Area (ACAT), where

presently there are 18 people working in conservation chores, when it is estimated that there should be twice as many. Other important problems in the area are the impossibility of consolidating biological monitoring in the area, the difficulty in boosting recreational and pleasure activities;¹⁵ plus diverse obstacles in specific conservation activities such as the facultative plant species control mentioned before.

The Park has also faced problems related to human activities, for example, the unsustainable and illegal extraction of fish and mollusks, poaching and, from an environmental perspective, the high risk of fires, which has generated a decline in its ecosystems. A sample of the last is the fire occurred in April 2010 in which about 3,000 hectares of the Park were burned.¹⁶

The problems to diminish the threats over the ecosystems of Palo Alto NP are largely due to budget restrictions in management of the ACAT that, as has already been mentioned, prevents executing restoration actions in the Park. It is necessary to remember that this phenomenon is not exclusive of Palo Alto NP but, on the contrary, it is a generalized problem in all protected areas of Costa Rica.

SINAC is aware of the needs of Palo Alto NP and hopes that by 2015 it can count on a new General Management Plan (financed by the Private Trust of CRXS) and a Low Tempisque Basin Master Plan, in which the regional planning focus favors the conservation of resources of this area, reconciles the differences among actors, and integrates in a better way the inhabitants of the region. An important and not very often considered factor until now is tourism,¹⁷ for its development, the ecosystem needs to be recuperated, it is necessary that birds come by thousands, and that the infrastructure and personnel are in appropriate conditions of welcoming them.

It is important to specify that most of the recommendations for Palo Verde NP stated in the Ramsar Convention 1998 report were already considered in the different Development and Management Plans for the area (and they have helped improve the conditions of Palo Verde since the 80's). In fact, the Ramsar Convention concluded the following:¹⁸

Based on the analysis of the situation, made by the Ramsar team, it is obvious that the causes of the problems of the ecosystems in Palo Verde NP have a very strong external factor. The impacts that the activities (tourism, urban, and agricultural development) taking place outside Palo Verde

¹⁵ Interview with Alexander León Campos, Director of Tempisque Conservation Area. San José, March.2014.

¹⁶ http://www.aldia.cr/ad_ee/2010/abril/18/nacionales2337332.html

¹⁷ Interview with Alexander León Campos, Director of Tempisque Conservation Area. San José, March.2014

¹⁸ Informe Misión Ramsar 1998. Available at: http://www.ramsar.org/cda/en/ramsar-documents-rams-mision-ramsar-de-16021/main/ramsar/1-31-11295E16021_4000_0__

¹⁴ Ídem

NP have on the Park itself, are not solved by managing the ecosystems inside its boundaries.

After twenty years of its creation, and in spite of multiple workshops and experts visits, the problem has not been solved, because the ongoing discussion on whether water and forest plants should be managed and controlled is ignoring the real problems and it is a way of postponing solutions.

The real solutions to the deterioration and loss of the ecosystem problems are found at the political and administrative decisions level, both inside and outside of Palo Alto NP's boundaries. It is necessary to move forward and that the agendas of the Palo Verde NP authorities, the SINAC authorities in San José, the communities, the ranchers, and tourist workers coincide.

Thus, the alteration of the ecological characteristics of the Palo Alto NP wetlands is, in our perspective, the final result of a series of problems both at space and temporary levels. For this it is necessary that the Park's staff and the MINAE/SINAC authorities in San José, develop a global and strategic ability to identify a few urgent actions, define those that are truly prior and, at the same time, act as facilitators of the necessary actions.

This shows that the solutions to Palo Alto NP's problems have been known for years, but the lack of financial resources and political will, have made it difficult to effectively implement these solutions. This motivates the Park's staff to search for financial alternatives to solve the problems.

The following section addresses one of those initiatives, which ended up being very successful, not only because of the amount of financial resources collected through it, but also because it achieved the active participation of different sectors of Costa Rican society.

3.3. Palo Alto NP's Difficulties

As can be seen, the most suppressed threat for the ecosystem balance at Palo Verde NP has come from the difficulty in controlling the proliferation of species such as the typha and bramble species. The consequences of this problem in the Park have been evident; it is for this reason that such an altered ecosystem demanded an immediate action that could not depend on the bureaucratic paperwork of a public system that eventually could not attend it.

In 1998, the Ramsar Convention had already mentioned that the studies and recommendations were enough for actions to take place, but it had been impossible to keep implementing effective measures that attended those recommendations; on the contrary, the environmental deterioration continued, just with immediate improvements until 2013, given the partial application of active management. The following is an outline of the previously mentioned measures taken through time:

At first it was thought that these species were invaders, and due to the multiple studies that the diffi-

culties aroused, it was proved that they were endemic, but that their devastating behavior was caused by the absence of cattle as a biological control and to its prolific qualities. Thus being, the first alternative to the solution to recover the bird populations in the area was promoted by the National University of Costa Rica and it consisted of manually weeding typha and bramble when they surpassed 45 cm above the water level; nevertheless, this technique required lots of time and personnel, since both plants spread easily.

Continuing with the search for solutions, rice harvesting techniques were revived, thus adapting the tractor blades to cut the typha, but this alternative did not end up in good results because the cortex of the typha is very thick. As parallel initiatives, some communities joined a project to take advantage of the remains from typha weeding, to produce good quality paper. In spite of being a very promising entrepreneurship, communities were not organized in order to keep it going and attend the market that received the product very well.

Studies and alternative evaluations went on, and in the 90's the use of "fanguadoras" (metallic wheels that are adapted to a tractor to develop the *fanguero* activity) was approved as an improved strategy of the one used in rice plantations. The results were good, but at a higher cost. Eradicating the plants this way required contracting machinery and personnel, which is very expensive, and thus unsustainable.

The Park's fundamental location and, at the same time the one that is mostly affected by the difficulties, was the Palo Verde lake. This is an area of Palo Verde NP in which there are records of 60 kinds of birds among native and migratory, and so it represents the most important place in terms of biological richness. There, the most abundant species was typha. For this reason, since 2001, with the support of the MINAE strategies like *fanguero* and pasturing were implemented for the recovery of the wetland. By 2003, this Ministry together with the Organization for Tropical Studies (OTS) with headquarters in the Park, designed the Palo Verde Restoration and Management Project, in which one component was to monitor to verify if the executed actions were the appropriate ones to return to the situation 20 years before, in reference to the population density of birds and the water level.¹⁹

Some of the environmental benefits derived from the Project were to create bodies of water for more birds to come, generate an increase in other plant species that the typha does not allow to grow, recover the richness and abundance of other vertebrate species, fish, anura (which also serve as bird food), obtain an improvement in water quantity and quality due to the

¹⁹ Palo Verde Lake Restoration and Management Project. OTS, 2003

“A successful initiative, not only because of the amount of financial resources collected, but also because it achieved the active participation of different sectors of Costa Rican society”

controlled opening of the Tempisque sluice gates, and change the course of contaminated waters that come from the crops in the area.²⁰

It is important to highlight that typha does have positive aspects, for example, its branches can be favorable to species such as the hemiptera (bugs), and besides, it can serve as hangers for some anura species and as a place for nesting for other birds. This is why leaving some patches of typha was recommended in order to keep the biodiversity balance in the ecosystem. Additional actions were suggested, like doing workshops and talks so that the communities would understand the importance of the typha control projects.

It was determined that to meet all the objectives of the Laguna Palo Verde Restoration and Management Project, a moderately low initial investment was needed. Only the objective related to changing the course of contaminated waters required a high initial investment. Table I shows the approximate investments for each activity, as well as the instructions for their financing..

Table I. Costs-Project 2001

Objective	Activity	Aproximate Cost. USD	Institution (s) in charge
1*	A. Fanguero	\$30/Ha/yr	MINAE /OTS
	B. Introducing cattle	0	MINAE
	C. Fauna and flora monitoring	\$5,000	OTS
2	D. Topographic survey	\$30/Ha/year I	OTS
	E. Recovery of water flows	\$15,000	MINAE OTS/SENARA (Servicio Nacional de Aguas Subterráneas Riego y Avenamiento)
	F. Water level management	\$15,000	MINAE /OTS/SENARA
3	G. Change of course of contaminated waters	\$70,000	MINAE /OTS/SENARA
	H. Contaminants monitoring	\$20,000/yr	MINAE /OTS/SENARA
	I. Agriculturer training	\$75,000/yr	INA/SENARA/OTS

Source: OET

*The time length of activities A,B,C,F, and H is two years.

The conclusion of this Project was that the perfect solution to eradicate typha consists of a combination of various techniques, among them responsible pasturing, in which the cattle men follow a Management Plan, through which it is indicated how many cattle to pasture, as well as where to put them. This last item generated conflicts with the cattlemen involved in the recovery of the wetland, who stated that they did not wish to do very intensive pasturing in the lake, since they ensured that cattle loses weight when enclosed in the lake, nevertheless, there is an investigation that proves the opposite.²¹

Further on, when the Project was over and they started to look for funds back in 2004, and through another project, they were able to do *fanguero* 350 ha. Parallel to this, isolated management actions were taking place and by 2010, the need to search for funds that allowed for a definite solution to the problem that this kind of species were generating in the Park arouse again.

²⁰ Ibid.

²¹ Palo Verde Lake Restoration and Management Project. OTS, 2003.

“The isolated actions to maintain Palo Verde NP had been effective in the moment of their implementation, but they needed continuity, since the results quickly became diluted because of the plants’ propagation speed”

4. Save Palo Verde Campaign

By 2010 the situation was so critical that, according to Alexander Leon, more birds were found outside the conservation area than inside. The isolated actions to maintain Palo Verde NP had been effective in the moment of their implementation, but they needed continuity, since the results quickly became diluted because of the plants’ propagation speed. The scientific fundamentals of control needed to be materialized in concrete and long term actions. Financing was required for this and that is how Save Palo Verde Campaign began.²²

In 2010, in the midst of this necessity, Pilar Cisneros, director of the program Telenoticias de Teletica Channel 7, went on a trip to Palo Verde NP, for different activities, among these bird and star watching. Ulises Chavarría, the Park manager, took advantage of the opportunity of having her there and told her about the wetland difficulties. Chavarría and Cisneros analyzed different options of management. Cisneros argued that more extensive cattle could be the perfect solution to the problem, and Chavarría replied that such alternative was applied at a lower scale and in a controlled manner, since the conservation principles of the area could not be totally lost.²³

That is how, after a long conversation of the two of them, Chavarría asked if Teletica would be interested in helping raise funds for the recovery of the wetland. Cisneros answered positively and even indicated that the moment was the perfect one for that kind of project, since Channel 7 was participating in different social fundraising campaigns, thus she considered that the channel would be very interested in expanding the initiatives to environmental issues.

In spite of Cisneros’ enthusiasm for the idea, Chavarría and his SINAC colleagues did not decide to visit her in San José until almost 8 months later, in 2011. In this meeting it was decided that the objective of the campaign should be to obtain the necessary funds to buy at least one tractor to be used for the fanguero activities. Chavarría explained to Cisneros that up until then, the SINAC rented tractors sporadically, due to the lack of financial resources that could ensure a permanent basis. He also stated that with the purchase of the tractor, the resources destined to machinery contracting would be less and the Park personnel could develop the ability to operate them and obviously, the conditions of the ecosystem would improve to an ideal 30% recovery of the wetland. This is a desirable percentage to open water bodies and bring birds again, as well as to keep the specific benefits of the typha.²⁴

Pilar Cisneros and her team, directed by journalist Jaime Sibaja, started to look for companies that sold the required equipment (tractor and fanguero accessories) while at the same time Sibaja got the responsibility of carrying out interviews and reports on the area, with the support of the company. Cisneros and Sibaja were initially in charge of deciding which activities would be part of the Save Palo Verde Campaign, stating that, direct donations from companies and individuals by text messages would be considered as the main components of fundraising.

4.1. Details of the Campaign and Televised Promotion

To publicize the campaign and its importance for the recovery of Palo Verde lake, the Telenoticias team recorded a series of short reports (about seven minutes long) in which previous images of the Park were shown in which thousands of birds used to land, and they were contrasted against the present images, in which the problem could be seen: that is, shortage of birds, and typha and bramble covering a large area of the wetland. These reports included interviews with staff from SINAC and scientists who have worked on the area. They emphasized the environmen-

²² Interview with Alexander León Campos, Director of Arenal Tempisque Conservation Area. San José, March, 2014.

²³ Interview with Alexander León Campos, Director of Arenal Tempisque Conservation Area. San José, March, 2014.

²⁴ Interview with Ulises Chavarría, Palo Verde NP Administrator. Palo Verde, March, 2014.

tal difficulties of the area and encouraged TV watchers to collaborate and thus, be part of the solution. These reports were emitted during four emissions of the TV news broadcast, which is considered the one with the largest audience in the country.²⁵ Other short ads were transmitted during commercial segments throughout the day.²⁶

4.2. The Role of Forever Costa Rica

Cisneros and her support team on Channel 7 expected the campaign to be a success in terms of communication but, they came to realize they needed the support of a trustful organization (public or private), that would be responsible for the funds administration and delivering reports to donors, in relation to the use of the money, something that was necessary especially because of the media display of the fundraising campaign. At the beginning they thought about giving the money to the Government but, when Sibaja met with the Environment and Energy Minister, he recommended it was better that the funds raised in the campaign not be handed to the public entity since the project could not be properly executed because of the bureaucratic frictions that could take place, and he indicated that the best option was to constitute a trust.²⁷

For this reason, Channel 7, through Cisneros' team, contacted CRXS that, in spite of being a young organization at that time had shown to have great abilities in fund management for conservation projects. Additionally, among CRXS strengths was that this organization was financing the elaboration of the Palo Verde NP Management Plan and held a cooperation agreement with SINAC as it was seen, to meet the goals of the Protected Areas Program of the CBD.²⁸

The Board of Directors of CRXS agreed to the participation of the organization in the campaign, which was also seen as an opportunity to promote the image of CRXS. For this reason, CRXS made one of their accounts and its entire staff available to all donors, in order to collect and administer the collected funds. Once the project was constituted, CRXS signed a contract with the Costa Rican Electricity Institution (CEI), to make available to the public a number to deposit donations by text messages. Additionally, the CRXS assigned a checking account exclusively for the campaign, designed an investment policy of the collected funds, in accordance with the execution needs of the project. CRXS agreed

not to charge for the administration of the fund collection, as well as for the account management, including the outlay for purchases and maintenance. Nevertheless, it is estimated that for the design and fundraising, the compensation for CRXS was approximately 50 thousand dollars for administrative and staff expenses, since they had to pay for items such as travelling to the area, fence installation, making contracts with each donor company, plus support chores to all the companies participating in the campaign.²⁹

Figure 1. Delivering the keys to Palo Verde NP's Administrator



4.3. Components of the Campaign

4.3.1. Text Messaging

Kolbi is the most important mobile phone communication company in the country. At the time of the campaign it held 85% of the market share.³⁰ It is a state company that is part of the ICE group. In 2014 its market share diminished because of the entrance of Claro and Movistar in Costa Rica³¹; nevertheless, it is still the leading company in the market of mobile telecommunication in Costa Rica.

Channel 7 was able to obtain the collaboration of ICE through Kolbi, so that one of the means for collecting funds for the Save Palo Verde Campaign would be through text messages. The Regulation of Requirements and Conditions for the Promotion³² was established for this purpose and published in the printed media as well as their website. In it, it was indicated that Kolbi trademark and the publicity of the Promotion Save Palo Verde, were exclusive property of ICE. It was also established that the Promotion, the name given to this component in the contract of the campaign, was valid between 00:00 hours of April 19th, to 11:59 p.m. of May 4th, 2012. In terms of the mechanics of fund recollection, it was established that only clients and users, natural and legal

²⁵ Rating of the early news broadcast (6:00 a.m.) was 3.6, for the noon broadcast (12:00 p.m.) it was 6.3, for the night broadcast (7:00 p.m.) it was 6,6 and for the late night news (11:00 p.m.) it was 3.1.

²⁶ Interview with Jaime Sibaja, Channel 7 journalist. San José, March 2014.

²⁷ Ibid

²⁸ Interview with Zdenka Piskulich, Executive Director and Pamela Castillo, Program Manager. Forever Costa Rica. San José, 2014.

²⁹ Ibid

³⁰ <http://www.iocit.com/segun-el-ice-kolbi-mantiene-85-de-mercado-movil/>

³¹ http://www.nacion.com/nacional/telecomunicaciones/ICE-participacion-mercado-telefonía-celular_0_1402059836.html

³² http://www.grupoice.com/wps/wcm/connect/3d34a2004af439c-c9492bd2b66beb155/Reglamento_palo_verde.pdf?MOD=AJPERES

persons, with pre or post payment plans could make donations of one hundred and fifty colons (150 colons is approximately 0.3 dollars), every time a text message with the words “palo verde” (in capitals or lower case letters) was sent to code 7700. The 150 colons was the standard donation amount per message, to which 1.50 colons had to be added for the cost of operation and 0.19 colons for tax payment thus, the final cost of sending a message was 151.69 colons. Additionally, it is necessary to emphasize that ICE took over 3.86% of the total import charged to cover costs for the concept of billing, distribution, and retrieval.

Kolbi designed different communication strategies to motivate donations among its users. For example, it held a raffle of 100 tickets to a Costa Rica against El Salvador soccer game on June 8th, 2012. It also used the social networks, especially Facebook, as an informative and promotional platform of the campaign.³³



Source: www.facebook.com/iceatulado and www.facebook.com/kolbicr

4.3.1.1. Cooperation Agreement Between The Costa Rican Electricity Institute (ICE) and Forever Costa Rica

CRXS signed an agreement with ICE to establish the basis for the money transfer, the main agreements established in this contract, besides the ones previously mentioned in the Regulation of Requirements and Conditions for the Promotion were³⁴:

- ICE would support the campaign reinforcing its principle of Corporate Social Responsibility.
- ICE would support the campaign with equipment, financial resources, human resources, and materials for the money collection, through text messaging and prepaid cellular phone refills, channeled by the CRXS organization.

³³ https://www.facebook.com/iceatulado/posts/364994316869299?stream_ref=5
<https://www.facebook.com/kolbicr/posts/391123457594255>

³⁴ CON-141.12. April 19th, 2012

- CRXS would commit that the Kolbi trademark would enjoy visibility while the campaign with Channel 7 lasted. The relevant ICE product trademark for effects of the contract would be Kolbi.
- The ICE will transfer the collected funds to an assigned bank account on a monthly basis at billing closing.
- CRXS must include Kolbi in all the planned promotions to motivate donations.
- The expected time length for the agreement with the ICE is six months or until the last liquidation of the donations is done, whichever happens first.

It was additionally established that the contract for fund management for each year during the second term must state management goals that would be contrasted with the project's goals for the next year, which would be socialized with the SINAC and the other participants of Save Palo Verde Campaign.

5. Corporate Donations

Besides the donations from text messages, direct donations from business corporations were also carried out. For this purpose, Channel 7 contacted various companies considered as potential donors and made them the proposal of donating 5 thousand dollars (USD) for the tractor purchase. In exchange, they were offered the possibility of appearing in Telenoticias, whether in the 12:00 a.m. or the 7:00 p.m. broadcast. In these transmissions a symbolic act of donation was shown, in which a representative from the company would hand in Sibaja a check with the donation. This generated a lot of interest among the contacted companies which accepted to participate and many even donated more than what was asked for, as it is shown in the following table:

Table 2: Company donation

COMPANY	Donation USD\$
Alimentos Pro Salud	\$20, 000
Holcim Costa Rica	\$10, 000
Credomatic	\$10, 000
Sur Química (Pinturas Sur)	\$10, 000
Agencia Datsun S, A,	\$5, 000
Wallmart	\$5, 000
Bridgestone	\$, 000
Compañía Numar	\$5.000
Coca Cola	\$5.000
Derivados de Maíz (DEMASA)	\$5.000
Florida Bebidas	\$5.000
Dos Pinos	\$5.000
Telecomunicaciones Claro	\$5.000
Otras (menores a USD\$5,000)	\$7.547,9
TOTAL	\$102.547,9

Source: CRXS

Apart from money donations, donations in kind from certain private corporations were received such as vehicle dealers and Matra and Vetrasa machinery, and the architecture and construction company Valdesol S.A. and MECO. All these companies also had space in the short reports in which all their representatives could speak about the support of their companies to the campaign. The participation of each of these companies is described next:

Vetrasa:³⁵ it is an automotive company that represents Suzuki in Costa Rica, which is part of the Rudelman group that operates in different countries. Vetrasa donated a FOTON 60hp tractor valued in 15 thousand dollars

³⁵ Interview with Yoav Rudelman, Executive Director Rudelman Group. San José, March 2014.

for road repairs and plant cutting. Additionally, Vetrasa donated advice in how to use the tractor bought through the campaign in a more efficient way.³⁶ From its experts' evaluation, in cooperation with the Park's Staff, it was concluded that a higher potency tractor was required, so it was decided that the FOTON tractor be used as partial payment of a 105hp Kubota, which could better perform the fanguero activities.

Matra:³⁷ it is the company that represents Caterpillar and John Deere in Costa Rica, dedicated to import and sales of construction machinery, as well as offering rentals, spare parts, and repairs to the machines. Its contribution to the campaign was a discount on the bigger tractor (155hp), destined to the construction of canals for fire prevention and trace during summer. This discount was valued in 53 thousand dollars. They also gave in field assistance and maintenance of the tractor for 2.000 hours or three years, a service estimated in 6 thousand dollars.

MECO:³⁸ it is a regional construction company, specialized in land movements, roads, and touristic, industrial and commercial infrastructure works, of large magnitude that started in Costa Rica. This company donated 20 days of machinery to remove typha in 60 hectares. This donation was estimated in 25 thousand dollars and took place in the midst of the campaign which served as an infield working strategy, while the fundraising was finished and the implementing of the new machinery was beginning.

Valdesol S. A.:³⁹ Rafael Víquez, one of the partners in Valdesol, an architecture and building company, expressed that it had always been interested in supporting conservation projects in Costa Rica, for this reason, in previous occasions they had donated the designs and infrastructure to SINAC, and had also supported constructions for ecotourism. Because of this, when Víquez saw the ads of Save Palo Verde Campaign on Channel 7, he considered it was relevant to participate in it.

To begin with, Valdesol made the planning and design of a warehouse for the Park. For this purpose, the company decided to take over all the expenses related to this activity, including transport. In the end, the company estimated the contribution in approximately 8 thousand dollars. CRXS was in charge of contracting the construction company for this construction, considering all the legal requirements related to constructing on State lands (property of SINAC).

6. Delivery Caravan

A caravan from San José to Palo Verde NP took place on July 2nd, 2012, and CRXS, Channel 7, the four companies that made contributions in kind, representatives of SINAC and MINAE participated. Obviously, the Channel did a great coverage of this event, since it was a way of communicating the results of this joint effort to all citizens.⁴⁰

On the day of the caravan the two tractors were taken, along with their accessories and again, the companies had the opportunity to communicate what they had donated. That day, CRXS also had the opportunity to talk about the campaign, Zdenka Piskulich, Executive Director of the Association, expressed for Channel 7 that, besides the two tractors, they were working, through CRXS, in the construction of the warehouse to protect them, as well as in contracting additional services to support the fanguero and that even maintenance for the next five years would be supported, all this in order to reach the goal of recovering 300 ha.⁴¹

6.1. Collecting and Investing the Funds

Save Palo Verde Campaign collected more than expected. The goal was to reach 70 thousand dollars for the purchase of a tractor, but it reached four times that amount, exactly 284.161 dollars which sources are described in Table 3. With the funds raised, and the support of companies like Vetrasa and Matra, it was possible to buy two tractors with their respective complementary tools. In the same way, with those funds it was possible to build a warehouse, and a remainder was set aside to be used for the maintenance of the equipment for at least five years.

³⁶ Video on Vetrasa y MECO donation at: <https://www.facebook.com/video/video.php?v=410349242330949>

³⁷ Interview with Mario Ulate, Sales Manager of Agrícola de Matra. San José, March, 2014.

³⁸ Video on the caravan at: <https://www.facebook.com/video/video.php?v=441385185894021>

³⁹ Interview with Jaime Víquez, Manager and partner of Valdesol S.A. Heredia, March, 2014.

⁴⁰ Video on the caravan at: <https://www.facebook.com/video/video.php?v=441385185894021>

⁴¹ Ibid.

Table 3: Amounts collected by source

Source	Amount USD	%
Natural Persons	\$3,570.49	1%
Legal Persons	\$102,547.90	36%
ICE-Kolbi text messages	\$178,042.61	63%
Total	\$284,161.00	100%

Source: CRXS

The immediate investments made with the funds collected during Save Palo Verde Campaign are shown on Table 4 (without counting the 30 thousand dollars of the warehouse).

Table 4: Immediate Investments with Funds from “Save Palo Verde Campaign”

Initial Investment		
Initial Investment		
Tractor 1 "Summer"	\$53,000	Matra 155 HP con 2000 maintenance hours
Tractor 2 <i>fanguero</i>	\$38,000	Kubota 105 HP con 2000 maintenance hours
Rake 28 Discs	\$17,000	Matra jagged the 28 Discs
Additional Equipment	\$12,300	84 in weeder back hydraulic shovel
Fanguero Equipment	\$5,000	Vetrasa Tailored wheels
Fanguero services	\$13,052	
Total	\$125.300	

Source: CRXS



“An important factor in the campaign was that the achievements that were reached in each stage were clearly shown”

Table 4 shows the initial investment (125.300 dollars) and, given that after the success of the campaign there is a surplus in year 0 (2012) of 145.809 dollars, this is invested to hire resources that cover preventive maintenance, corrective measures, and hiring third parties for the support in the fanguero activities. The extinguishing use of the money and its interest was projected until the year 2020. The annual expenses executed and projected until 2020 are specified in Annex 3.

6.2. Results

CRXS expects that five years after the campaign, Palo Verde NP's management will be ideal, thus avoiding the proliferation of species like typha and bramble, and that it is able to manage the natural conditions of the conservation area and with them all the ecosystem services, while at the same time it is better adapted to climatic change. Nevertheless, this is something uncertain that should be measured to set a precedent and continue working.

Illustration 2 2014 Bird Festival Invitation



An important factor in the campaign was that the achievements that were reached in each stage were clearly shown from the amounts that were being collected to the delivery of the machinery caravan, including the 2014 Bird Festival,⁴² where the recovery goals of the Park were shown, reflected in an increase of the bird population.

6.2.1. Mass Media Publications

After the closing of fundraising of the Save Palo Verde Campaign, CRXS has negotiated twelve mass media publications in which the campaign's conservation investment results were shared. These publications have been estimated in 55.704 dollars and were done in different media such as:

- [Diario Digital Nuestro País.](#)
- [Crhoy.com](#)
- [ADN Radio.](#)
- [Telenoticias.](#)
- [Teletica.com](#)
- [La Nación.](#)

The Save Palo Verde Campaign reached very good results for this protected area. Highlighted among these is the recovery both of the ecosystems, as well as the Park's image which, in turn, generated an increase in visits. Nevertheless, there are ongoing problems, for example: in spite that the SINAC acquired the necessary machinery to control facultative species in the Park as well as the funds to keep this machinery working for at least nine years, the institution is facing a lack of personnel and the uncertainty of the resources that will allow the operation of the machinery, after the end of the nine years that the donations can finance. This last part is very important because the challenge of the Park's conservation has always been to have ongoing actions to prevent the negative effects of these plants that, as is well known, expand quickly when constant control activities are not sustained through time.

⁴² Specifically in the 2014 Bird Festival, one of the main activities was to invite people from the region to visit the NP since although many of them lived near the park, they had never been there.

ANNEXES

Annex 1. Costa Rica´s Protected Areas Management Categories

Category	Description ⁴³
National Parks	These are regions that are destined to the protection and conservation of diverse fauna and flora of great national and international importance, a great variety of ecosystems that have not been affected by human occupation. These regions are under official surveillance and protected by national decrees. Because of the grand beauty of the natural landscape, general tourism is permitted under supervision.
Biological Reserves	They are mainly created for the following purpose: the study and research of wild life and the ecosystems in which it lives. They are: forests and forest territories with wide biodiversity and as a consequence present more strict rules in terms of the exploitation of their resources. For this, the law stipulates that all these zones must be acquired by the State.
Forest Reserve	Forest territories, appropriate for wood production, where management actions are executed with sustainability criteria.
Wetland	An ecosystem that depends on water flow regimes, natural or artificial, permanent or temporary, fresh or salty, including the maritime extensions or coral reefs up to 6 m below low tide. The Organic Law of Environment was dictated in September 1995, and it states which areas are protected because of their valuable ecosystem.
Wild Life	These are forests especially designated to the protection, conservation, increase, and management of the different fauna and flora species of the environment. Their main characteristic is that they hold a large amount of flora and fauna, which allows the qualification and evaluation of which are in danger of extinction. The law recognizes three types: State Owned Shelters, Mixed Owned Shelters, and Privately Owned Shelters.
Shelter	An area made up of forests and lands with sustainability for wood production, where the main objective is to protect the soil, the regulation of water flow regime, and the conservation of the environment and hydrographic basins.
ProtectiveAreas	Areas that hold a cultural, historical, or archeological outstanding resource, of great importance due to the unique characteristics or of special interest. Its extension depends on the size of the resource that is likely to be conserved and how much adjacent land is needed to ensure its protection and appropriate management. The administration of these places falls on the respective townships of the area.
National Monument	An extension of land, usually privately owned, which main function is to connect protected wild areas to facilitate migration and dispersion of fauna and flora species thus ensuring their conservation. The characteristics of a corridor (location, dimension, agroforestry, cattle breeding, or others) are determined after identifying the species that are expected to use it.
Biological Corridor	An extension of land, usually privately owned, which main function is to connect protected wild areas to facilitate migration and dispersion of fauna and flora species thus ensuring their conservation. The characteristics of a corridor (location, dimension, agroforestry, cattle breeding, or others) are determined after identifying the species that are expected to use it.

⁴³ <http://areasyparques.com/areasprotegidas/sinac-terminos/> y <http://www.nacion.com/zurqui/biodiversidad/4/>

Annex 2. Conservation Areas in Costa Rica

North Huetar Sandy Conservation Area
Arenal Volcano National Park
Caño Negro Wild Life National Shelter
Juan Castro Blanco National Water Park
Border Corridor Wild Life National Shelter
Maquenque Wildlife Mixed National Shelter
Tempisque Conservation Area
Palo Verde National Park
Tenorio Volcano National Park
Cipancí Wild Life Shelter
Barbudal Hills Biological Reserve
Guanacaste Conservation Area
Horizontes Experimental Station
Guanacaste National Park
Rincon de la Vieja National Park
Santa Rosa National Park
Junquillal Wild Life Shelter
Central Volcanic Mountain Chain Conservation Area
Guayabo National Monument
Braulio Carrillo National Park
Irazú Volcano National Park
Poás Volcano National Park
Turrialba Volcano National Park
Alberto Manuel Brenes Biological Reserve
Grecia Forest Reserve
Caribbean Friendship Conservation Area
Barbilla National Park
Cahuita National Park
Hitoy Cerere Biological Reserve
Gandoca-Manzanillo Wild Life Mixed National Shelter
Friendship International Park
Limoncito Wild Life Mixed National Shelter
Friendship-Pacific Conservation Area
Chirripó National Park
Tapantí Death Mountain Range National Park
Friendship International Park
Macho River Forest Reserve
Las Tablas Protective Zone
Navarro River-Sombrero River Protective Zone

Coconut Island Marine Conservation Area
Coconut Island National Park
Submarine Mountains Maritime Conservation Area
Osa Conservation Area
Terraba Sierpe National Wetland
Corcovado National Park
Whale National Maritime Park
White Stones National Park
Golfito National Wild Life Shelter
Caño Island Biological Reserve
Fresh Gulf Forestal Reserve
Tempisque Conservation Area
Cañas River Lacustrine Wetland (Mangle)
Stone Pen Lacustrine Wetland/Mangle
Barra Honda National Park
Diriá National Park
Baulas National Maritime Park
Caramonal Wild Life Shelter
Ositonal Wild Life Shelter
Caletas Arío Wild Life National Shelter
Cipancí Wild Life National Shelter
El Viejo Ranch Wild Life National Shelter
Iguanita Wild Life National Shelter
Mata Redonda Wild Life National Shelter
Conchal Wild Life Mixed National Shelter
White Cape Absolute Natural Reserve
Montealto Protective Zone
Torguero Conservation Area
Tortuguero National Park
Guácimo-Pococí Aquifers
Barra del Colorado Wild Life Shelter
Central Pacific Conservation Area
Carara National Park
The Crab National Park
Manuel Antonio National Park
Quetzales National Park
Saint Luke Island Wild Life National Shelter
Playa Hermosa-Punta Mala Wild Life National Shelter

Annex 3. Executed Palo Verde (2012-2014) and forecasted (2020)

	HISTORICAL		
	FY2012	FY2013	FY2014
	(2011-2012)	(2012-2013)	(2013-2014)
Income			
Donations	\$284,161	\$ -	\$ -
Interest	\$ -	\$13,478	\$1,989
TOTAL	\$284,161	\$13,478	\$1,989
Expenses			
Campaign Tractors	\$125,300	\$ -	\$ -
Tractors Circulation Rights	\$ -	\$ -	\$64
"Fangueo" Equipment repairs and maintenance	\$ -	\$1,984	\$1,880
Monitoring	\$ -	\$6,956	\$ -
"Fangueo" Services	\$13,052	\$ -	\$10,160
Warehouse construction for donated tractors	\$ -	\$22,133	\$13,737
Meetings and other expenses	\$ -	\$836	\$10
TOTAL	\$138,352	\$31,909	\$25,851
Income - Expenses	\$145,809	\$(18,431)	\$(23,862)
Accumulated Funds		\$127,378	\$103,516

	FORECAST					
	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
	(2014-2015)	(2015-2016)	(2016-2017)	(2017-2018)	(2018-2019)	(2019-2020)
Income						
Donations	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest	\$4,969	\$4,049	\$3,291	\$2,498	\$1,665	\$858
TOTAL	\$4,969	\$4,049	\$3,291	\$2,498	\$1,665	\$858
Expenses						
Campaign Tractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Tractors Circulation Rights	\$67	\$70	\$74	\$77	\$81	\$85
"Fangueo" Equipment repairs and maintenance	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Monitoring	\$4,069	\$1,356	\$1,356	\$1,356	\$ -	\$ -
"Fangueo" Services	\$5,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Warehouse construction for donated tractors	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Meetings and other expenses	\$2,000	\$400	\$400	\$400	\$400	\$400
TOTAL	\$24,136	\$19,826	\$19,830	\$19,834	\$18,481	\$18,485
Income - Expenses	\$(19,167)	\$(15,778)	\$(16,538)	\$(17,336)	\$(16,816)	\$(17,627)
Accumulated Funds	\$84,349	\$68,572	\$52,033	\$34,697	\$17,882	\$255