

# park guards in the conservation of protected areas

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Hernando Cabral

Park guards are the field staff in charge of the protection and security of natural resources in a protected area (Núñez, 2005). Depending on the specific characteristics of the protected area, they are also in charge of safeguarding cultural resources (PROARCA/APM, 2004). Without their presence, protected areas are more vulnerable to the factors threatening their integrity. Park guards may be employed by government or civil society institutions, (using their own or donors' resources), or work as volunteers.

Support for park guards and their work is considered a key component for the strengthening of protected areas. This includes the provision of essential equipment for their operations, such as vehicles, radios and uniforms, as well as training. According to a 1998 study done for the Parks in Peril (PiP) program, the most effective way to engage communities in management activities was to hire them as guards for the areas (Brandon et al, 1998). PiP has consequently promoted participatory processes as a way of involving the community and encouraging local residents to become guides or park guards, on a paid or volunteer basis. Also, PiP encouraged government agencies to facilitate patrolling and training for park guards and transfer authority to local actors (Martin and Rieger, 2003).

The purpose of this bulletin is to present general elements about the characteristics, roles and responsibilities of the park guards in the protected areas, emphasizing some innovative strategies from which lessons can be derived. The information is complemented by experiences from Latin America and the Caribbean that have received support from the U.S. Agency for International Development (USAID) and The Nature Conservancy (TNC) through the Parks in Peril (PiP) Program, and that are described throughout this publication.

## General characteristics of park guards

While the exact nature of their work depends on the protected area and context, park guards carry out a number of activities essential for conservation. Likewise, the skills required will depend on the activity, but in general all park guards should be interested in regional ecological and social matters, observant, dynamic, creative, able to react quickly and appropriately in emergencies, and capable of working both independently and in a group. Guards should also have the necessary qualities to attend and negotiate with people, such as park visitors and members of the community (PROARCA/APM, 2004).

Some of their most common functions are the following:

### Protection, Surveillance and Control

- Patrolling (ensuring compliance with rules and regulations related to protection and conservation in the protected area)





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- Fire prevention and control
- Control of illegal hunting and fishing (in some cases with the legal authority to make confiscations and arrest suspects and offenders)
- Control of invasive species

#### Administration and Maintenance

- Upkeep of infrastructure, equipment, tools and installations
- Care of interpretive trails & signage
- Maintain records on activities, conditions in the surroundings observed while patrolling, restrain from improper conduct, make advances in community work, etc.

#### Attention to the Public

- Control of visitor entrance
- Attention to visitors and other users, providing practical information about the quality, location and access to resources in the area and the legal provisions and rules regulating their use
- First aid, search and rescue

#### Community Work and Research

- Awareness raising and relationship building with local communities

- Participation in environmental education activities
- Liaison between institutions and inhabitants of the protected area for problem solving
- Support in participatory planning for protected area management
- Identification, design and/or development of sustainable natural resource use initiatives with the local communities
- Design and/or development of tourism initiatives compatible with the area's characteristics and conservation aims
- Support for research and monitoring of biodiversity and of the factors that threaten biodiversity
- Support for cartography of the area

*The park guard is “the person that is there in the field handling problems, searching for solutions and coordinating with interest groups”*

*(PROARCA, 2004: 3).*

The work of park guards will have positive results and lasting impacts if good relations are maintained with the people who live in the protected areas and their buffer zones, as well as outside visitors. Good relations perpetuate a positive and human image of protection and management activities in the protected areas. Gerardo García, community promoter in Costa Rica's Amistad Park, considers that the type of dialogue taken with the communities is essential and should be the result of a genuine interest in the people and their wellbeing. The main purpose of community efforts should be working with families and empowering their capacities. “Discovering with families how to be in harmony with the environment, being in the place where they are...that's how they can be guided and can take advantage of what they have.” In other words, “if you reach people's hearts, people will work with dedication” (interview by TNC, March 2006). According to Sandra Isola from the TNC office in Peru, conservation would not be possible without allies in the community, and these alliances and good relations are mainly established by the park guards.

# Innovative strategies with park guards

## Community, indigenous and volunteer park guards

Frequently park guards are members of communities in or near the protected areas. In addition to the practical benefits, such as proximity to their place of work, these individuals also become valuable sources of information about the ecological systems where they have lived. Their prior knowledge of the area, credibility, and ability to convoke and reach community members and relay the messages necessary for the area's conservation is of immense value. In many cases, getting communities to participate in the implementation of management plans has been possible because of their ties with park guards.

Some of the community members working as park guards in the protected areas of Latin America and the Caribbean belong to indigenous groups. Along with the advantages that come from involving community members, their participation has strengthened and disseminated traditional indigenous practices.

Sometimes community park guards are volunteers, motivated by something other than monetary benefits. Their decision to keep on working depends on their spirit and level of commitment, but also on the incentives and benefits protected areas can offer, such as fewer working hours and flexible schedules compared to full-time guards. Another way to motivate volunteers is to offer them the same training and recognition provided for salaried park guards, in order to encourage commitment. Specific incentives will depend on the possibilities of each protected area. For example, the incentive for volunteer park guards working in Peru's Pacaya Samiria National Reserve is authorization to collect a limited quota of reserve resources, such as fish, turtle eggs and palm trees.



## case 1

### Turning efforts into results in Atitlán, Guatemala

Julio Francisco Tax Tacam and Lorenzo Domingo Chocoy were hired by the municipality to work as guards in the Santa Clara Municipal Park, in Guatemala's Atitlán region. They didn't know how to make a trail or do many of the other activities expected of them, but were advised by a group of engineers and attended several courses offered by volunteer firemen, such as first aid and fire management. According to Lorenzo, the municipality noticed their interest in doing a good job and offered them training. "We put effort and goodwill into the work and it turned out well." Now, they have been delegated many of the responsibilities and decisions, something that fills them with pride.

They both believe there is still a lot to learn. "We were 50% prepared," Julio declares. "I can't say 100%, because we're still learning and anything that's been happening has made us more experienced. And whatever comes up, we go ahead and learn." Ever since the two began working they have tried to get closer to the communities and explain the importance of conserving the park.

For two years Julio and Lorenzo have been managing the tourist trail with its canopy ride, or zip line, an activity they wanted to develop right from the start. They looked for the different points and lookouts where the trail should be and determined the ideal site for a canopy. When some municipal officials arrived on a supervision visit, "instead of running into a big headache, they could see these men had been hard at work," says Julio, so they felt encouraged to talk about their ideas, like the canopy, and carry them out. "That's how we got started and so far there's been no problem."

Julio and Lorenzo are very proud of their work and want to keep on learning. Their main message: "If a worker comes in with willingness and intelligence, everything turns out well, no matter how little experience they have. But if someone's not willing to work, it won't."

*Source: Interview by TNC, August, 2006.*





## case 2

### Young volunteers in Jaragua, Dominican Republic

Located in the southwestern end of the Dominican Republic, Jaragua National Park is the largest protected area in the country. From 1990 to 1994, PiP supported the consolidation of this park, as a critical natural area in urgent need of protection.

A group of 30 volunteer park guards was established for this purpose through partner Sociedad Ecológica Oviedo. Some are students, and the average age is 25. PiP helped provide training so they could effectively manage and conserve the park. In addition to lowering the costs of patrolling this extensive area, the volunteers have also served as a link with the local community and a means of engaging fishermen, teachers, housewives, bird watchers and community leaders from the Oviedo municipality and El Cajuil community in protection efforts. In addition, the volunteers have carried out educational campaigns at the schools, offer guided tours on land and by boat in the Oviedo Lagoon, and assist with scientific research in the zone.



## Incentives

In addition to economic compensation in the form of wages, offering other types of incentives, such as job stability, can motivate park guards to stay on and rewards their commitment to conservation and community work. Volunteers should be offered non-monetary incentives in return for their effort.

Park guards will be more motivated if they have adequate *equipment* for their activities. To carry out their tasks effectively, guards must be able to reach every part of the protected area, and having some type of transport (i.e., vehicle, motorcycle, bicycle, and/or boats) makes this easier when territories are extensive. In addition, putting the park logo or insignia on vehicles and uniforms can increase their sense of identification and belonging. Depending on the geographic area and local threats, other important elements include:

- Communication and localization tools: radios, telephones, compasses, GPS, maps, guides on fauna and flora
- Tools: i.e., for vehicle maintenance and repair, basic carpentry and electrical work; machetes and knives; and special tools for managing forest fires
- First aid kit
- Camping and climbing equipment
- Pack animals
- Weapons (depending on the nature of the activities and as permitted by country laws)

In some protected areas many of these elements are considered essential for carrying out basic activities. Others, such as uniforms and insignia, may be necessary because of potential risks and difficulties requiring that park guards be clearly identifiable by visitors and members of other institutions. However, this is not the case for all protected areas and given the special efforts that are needed to secure funding for “non-essential” elements, they can represent an additional motivation for guards.

Another incentive for guards can be providing them with *meals* and *lodging* at control posts or visitor centers, so they don’t have to travel back and forth from their homes everyday.

*Continual training* is a major incentive for most people. There are added benefits in the case of community park guards, who can share the new knowl-





Diego Cerna

## case 3

### Community and volunteer Park guards in Condor Bioreserve, Ecuador

Located in northern Ecuador, Condor Bioreserve comprises seven protected areas (Cayambe-Coca Ecological Reserve, Antisana Ecological Reserve, Llanganates National Park, Cotopaxi National Park, Cofán-Bermejo Ecological Reserve, Paschoa Wildlife Refuge and Sumaco Napo-Galeras National Park) and their buffer zones. This 24 million-hectare area protects sources generating 70% of Quito's water supply. It also harbors a wide variety of fauna and flora, including endangered species such as the Andean condor (*Vultur gryphus*) and spectacled bear (*tremarctos ornatus*).

The park guards in Condor Bioreserve are members of communities located inside the protected areas or buffer zones, and act as their representatives before agencies working in the area. In some of the protected areas, communities have selected groups of people who work on a volunteer basis, but receive the same identification as other park guards in the system. Thanks to the combined efforts of both paid and volunteer guards, forest fires in the paramo ecosystems have been significantly reduced, overgrazing has decreased, and tourism activities have been controlled. The guards have helped provide more biological information, which is necessary for the area's conservation and protection. As one example of their many different activities, Luis Lucero, a park guard selected by one of the communities in the Cayambe-Coca Reserve, participates in several of the commissions established in his community's management plan, including sports, environmental education, and surveillance and patrolling. There is also a commission on work with the elderly (interview conducted by TNC in January, 2007).

Currently, in the Cayambe-Coca Ecological Reserve there are approximately 35 volunteer park guards, designated by their communities and churches. Fundación Rumicocha, the TNC partner in charge of technical and administrative support, has provided training in basic techniques of wildlife monitoring, environmental education, fire control and ecotourism. The park guards also

ensure compliance with the system of rules and sanctions established by the communities themselves. According to reserve director Luis Martínez, community participation under the leadership of park guards has made this system more expeditious and effective because it is based on local laws and traditions. The State imposes sanctions on offenders not belonging to the community, but either way, the community makes sure fines and penalties are applied. The park guards have also worked with the communities in delimiting the agricultural frontier, thus preventing new settlements in zones important for conservation [(interview conducted by TNC in January, 2007)].

In Antisana Ecological Reserve and Llanganates National Park, groups of park guards have been key actors in conflict resolution activities and work with communities around specific issues, such as the management of the Andean bear.

The indigenous also participate in the protection of the Condor Bioreserve. Currently more than 50 park guards from the Cofán community patrol the 380,000 hectares of their ancestral territory, located in the Cofán-Bermejo and Cayambe-Coca Ecological Reserves. Funding for their salaries, training and equipment comes from several international sources, and their role in helping to regulate natural resource use and control illegal activities in the territory has been officially recognized by the Ministry of Environment.

These indigenous park guards have set up an innovative system of working. The brigades that go out into the field consist of five people, each with a different specialty (first aid, biological monitoring, GPS, and others). Generally there are seven brigades patrolling the reserve at any one time, with two stationed at priority sites for control of the main threats. The indigenous designed the system of patrolling in groups rather than alone or in pairs, due to the difficulties and dangers of the terrain.





## case 4

### Indigenous volunteer park guards in Bosawás, Nicaragua: “The main pillar for conservation”

In a system created in 1997, indigenous volunteer park guards representing communities in Bosawás Biosphere Reserve work to contain the spread of unsustainable practices generally employed by *mestizo* colonizers (Stocks, Beauvais and Jarquín, 1998). Thanks to patrolling, important advances have been achieved in protecting the territory and preventing settlements. This group also participates actively in campaigns to control forest fires.

As in Condor Biosphere Reserve, these indigenous guards receive funding from various agencies, including TNC’s Parks in Peril program, the Humboldt Center, and the Global Environmental Facility of the World Bank (GEF/WB) through a project named the Green Heart of the Mesoamerican Biological Corridor (“Corazón Verde del Corredor Biológico Mesoamericano” in Spanish). In addition to equipment and uniforms, this support has facilitated training in indigenous ecological regulations, map reading, GPS, first aid, environmental legislation and biodiversity monitoring.

The group’s creation was part of broader effort to strengthen indigenous capacity for autonomous management of their territories and natural resource use. These communities have assumed responsibility for designing and implementing management plans, maintaining demarcation boundaries and carrying out environmental education strategies (Stocks, Beauvais and Jarquín, 1998). The process has not been an easy one. Says Manuel Bojorge at TNC’s Nicaragua office, the group was formed of people living deep within the region’s remote mountains and did not know how to read or write Spanish, so training in environmental themes through the optic of a modern, technified world was a challenge. Communities chose the candidates they considered most suitable, and training was conducted in the native language.

Some actions are coordinated with the official park guards from the Bosawás Technical Secretariat, under the Ministry of Natural Resources and Environment (SETAB / MARENA). Given the reduced number of these guards, the group of indigenous volunteers has been a key element to promote conservation, and have even brought violations of park regulations before the national Environmental Ombudsman Office (Procuraduría Ambiental in Spanish). This collaborative process has not been easy, but the fact that they are dealing with these agencies and working with the non-indigenous guards reflects a positive change of attitude about environmental problems, and greater trust towards the Nicaraguan government.

edge with other people in the community and even family members. In the Madre de las Aguas Conservation Area in the Dominican Republic, training is offered on a wide range of topics related to natural history and natural resources, such as courses in indigenous handcrafts, ecotourism, management, care of mules used for tourists and patrolling, bee-keeping and others. This helps people in the performance of their work, and in their daily lives at home, as well. Sometimes training has also involved learning another language to facilitate communication with tourists. Command of a second language makes the guards more competitive in terms of employment, both present and future.

*Training manuals* complement these processes and can make it possible to reach more people. For example, together with other institutions, Fundación DeSdelChaco prepared a manual for park guards in Paraguay, divided in several modules with exercises, evaluations and additional references at the end to reinforce learning. Another example is the “Basic Manual for the Central American Park Guard,” prepared in 2004 by the Protected Areas and Environmental Marketing Component of the Central America Regional Program (PROARCA/ APM). The objective of this six-volume manual is to present useful topics in relation to the tasks of park guards in Central American protected areas: basic concepts of conservation and biodiversity; the mission, roles, and responsibilities of park guards and basic equipment; regional terrestrial and marine ecosystems and their environmental problems; environmental education; first aid and emergency care, and others. The preparation of this manual included a workshop with park guards from Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama, who had the opportunity to review and improve the manual.

Finally, another incentive is the satisfaction of a job well done, of knowing that one has contributed to the conservation of the natural resources that provide services for current and future generations. Added to the satisfaction of this achievement, which also requires recognition and feedback from superiors, is the prestige of being responsible for the conservation of ecosystems with regional- and usually national and global- importance. According to Estuardo Girón, director of the Conservation Program at *Vivamos Mejor*, a TNC partner in the Atitlan Volcanoes region in Guatemala, park guards participate “out of love because the pay is low” (interview conducted by TNC, August, 2006).





Luis Felipe Vela, ProNaturaleza

## case 5

### Monitoring in the Pacaya-Samiria National Reserve, Peru

Based on the Conservation Area Planning (CAP) methodology developed by TNC to identify priority conservation elements and critical threats for conservation, a biodiversity monitoring plan has been designed for Peru's Pacaya Samiria Reserve in coordination with park guards and promoters. Working in the reserve are volunteers and official guards whose salaries are covered by the national and regional governments and some cooperation projects, but all of them receive the same treatment, the same type of training and the same government-issued ID card.

Because the number of guards is reduced, local groups assist with control and patrolling through different management plans in exchange for a fixed quota of certain natural resources, like fish and plants. The forms filled out by the official guards to ensure compliance with the quotas, provide monitoring inputs. Guards help out with bird counts, as well, receiving training for this purpose from different institutions.



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Diego Ochoa

## case 6

### Financial sustainability of the Condor Park Guard System, Ecuador

With support from the PiP team, those who promote the conservation of Ecuador's Condor Bioserve have developed financial mechanisms to maintain the park guard system over the long run. One of these is an agreement with the Quito Water Fund (established with contributions from public and private companies that are users of Quito's water) and the Ministry of the Environment, representing the National System of Protected Areas, in which the Fund commits to supporting park guard activities. It was decided in 2006 that, as a long-range initiative able to establish long-term commitments, the Fund should gradually assume the costs of the park guards, taking these over from the PiP.

For the next 90 years as of December 2006, the Fund will finance the costs of 10 park guards in three protected areas within the Condor Bioserve, along with an additional two per year starting in 2008, for a maximum of 15, depending on the available funds. The financial support will be used to cover salaries, training, trips and equipment. In the training component, for example, through the water fund, park guards have already been trained to monitor three watersheds in Cotopaxi, Antisana and Cayambe-Coca that are essential for Quito's water supply. Municipalities will use the monitoring information to guide watershed management policies. Two new watersheds entered the monitoring program in 2007.

Other companies and individuals have joined funding efforts for park guards. In Cotopaxi National Park, support from adjacent land owners for community park guards, known as *chagras*, helps pay for salaries and training so they can patrol the paramo on horseback and control illegal entry and poaching. Likewise, through agreements with the Ministry of the Environment, guards in the Antisana and Cayambe-Coca Ecological Reserves are being financed by the Quito's water company (EMAAP-Q),

the AGIP liquid gas company, and individual landholders, along with PiP. In Llanganates, two hydroelectric companies assumed the cost of park guards in 2007.

Initially, operating conditions and standards for the different groups of park guards depended on whether they were volunteers, community members, or paid by the State, PiP partners or private companies. With support from PiP, basic guidelines were established for the bioserve's control and surveillance system, including common standards for park guard activities, training, equipment and remuneration. Whether private companies pay park guards directly or through the Ministry of the Environment, they all follow the parameters and park guards are accountable to the director of each protected area.

Ecuadorian legislation contains no legal instruments for payments by the private companies which develop projects in protected areas. Financial mechanisms thus depend upon policy decisions and negotiations between the parties, and are strengthened by the private companies' recognition of the work guards do on behalf of the bioserve. Fostering its conservation through support for park guards and other activities guarantees continuity of the goods and services companies need for their own existence. From the perspective of a private company, these costs are compensated by the benefits received and bolster their corporate image of being environmentally friendly. Says Tatiana Egúez at the TNC office in Ecuador, agreements with the companies are not considered as retribution, but rather "compensation for the services they use, which are ecological services...and should be viewed as a responsibility of the private company for at least control and surveillance in the zone," (interview conducted by TNC, March, 2007).





## Sustainable Financing

In terms of international cooperation, the shift in donors' priorities toward development aid and poverty reduction has generally resulted in diminished support for traditional short-term investments in conservation involving the strengthening of protected area infrastructure and management (Emerton et al, 2006), which includes funding for park guards.

This and increasing competition for resources has obliged administrators to look for imaginative ways of conceptualizing, justifying and using resources for the conservation of protected areas. Innovative ways must be found to ensure that protected areas have the field staff they need. One strategy has been the re-conceptualization of these areas within the broader scope of sustainable development and their contribution to development components, such as poverty alleviation. Another strategy has aimed at finding alternative financing sources in an attempt to alleviate the State's responsibility for covering management costs. Sharing administrative costs with other groups, organizations, companies or individuals can generate new financing sources and/or savings (Emerton et al, 2006). In general, having a diverse and stable portfolio of funding sources lowers risks and fluctuations. When there are several sources of funding for park

guards, salary levels and incentives need to be kept equitable to avoid potential conflicts.

Securing funds for park guards is a part of financing overall park management and administration, and includes training, equipment and salaries, at a minimum. These components need to be included in the budgets of the protected areas, as well as in fundraising strategies.

The goal is not just to have park guards, but to have the right number of people with the human and technical qualities to do their job efficiently. Specific needs in this area should be based on a consideration of how much physical presence is required given the threat level, the size of the area, the specific activities to be carried out and the training required. For example, there is an intensive use of manpower, including guards, in Ecuador's protected area system. One idea for making their work more efficient has been to improve the guards' skills by investing in training and capacity building (Ministry of the Environment, 2005).

As mentioned earlier, in addition to appropriate and competitive salaries, there are other work conditions that can serve as an incentive to attract and keep the most suitable people, including those at the level of field staff, such as park guards.



PiP help for Amboro Protected Area has come in the nick of time. It has arrived at a time when the park is under a lot of pressure. It has helped us with equipment and fuel for work and transport during patrolling. It has not only been an economic help, but also a help for the morale of the park guards. We would like PiP to continue. It would make us happy to have projects like this one in the future"

*(Ediberto Cari, Amboró Protected Area Park Guard, Bolivia)*





## Monitoring

Usually park guards are in charge of patrolling and surveillance and visitor attention in the protected area. Nowadays this has been combined with monitoring activities, enabling park guards to evaluate and regulate threats to natural resources.

Park guards have systematically collected data over time about the state of ecosystem elements, and have been able to do this without significant additional efforts. According to Estuardo Girón at the organization, Vivamos Mejor, in the Guatemalan Atitlán region, including park guards in the ecological monitoring of natural areas has been important for engaging local communities. Since many guards belong to local communities, they have traditional knowledge about the natural resources and this is an opportunity to share it.

In some cases, communities have taken the initiative to participate in monitoring activities. Those in Bosawás, for example, requested support to establish community monitoring programs. PiP and the indigenous communities are working with the U.S.-based St. Louis Zoo to carry out these programs. Local guards have been trained to monitor mammal populations, which has also enabled them to control hunting. According to Manuel Bojorge in TNC's Nicaragua office, for several years indigenous guards worked arduously to collect biological data demonstrating

reductions in species utilized for daily consumption, such as the paca (*Agouti paca*), peccary (*Tayassu pecari Jabali*) and tapir (*Tapirus bairdii*). Monitoring results have been published and presented at the community assemblies held in each territory, in order to raise awareness about the problems of these species.

In conclusion, one of the lessons drawn from PiP experiences is that the effectiveness of protected area management largely depends on the efforts of the park guards, including their work with the communities living in or near the area. This contributes toward the achievement of the Program of Work in Protected Areas established in 2004 during the Seventh Meeting of the Conference of the Parties (CoP7) to the Convention on Biological Diversity (CBD), which has as one of its objectives (objective 1.4), to *substantially improve site-based protected area planning and management* (Dudley et al. 2005). One of the activities suggested in order to accomplish this objective is to *ensure that protected areas are effectively managed or supervised through staff that is well-trained and skilled, properly and appropriately equipped, and supported to carry out their fundamental role in the management and conservation of protected areas*. Park guards are key actors in protected area management, so their strengthening should be a priority in strategies for the areas.

Park guards should not be “machines” (a kind of human repeater mechanically re-transmitting a message) or “know-it-alls” (reciting torrents of data to demonstrate how much they know). They should be a “host.”

(Van Humbeeck, 2003)

The presence of park guards is showing positive results. At first, people were negative about it, but now they understand that, in reality, they are protecting the future, not just of the Cofán but also of Ecuador and the world.

(Luis Narváez, President of the Indigenous Federation of the Cofán Nation (FEINCE), Ecuador)



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