



ACTION PLAN TO SAVE THE SINÚ PARAKEET (*Pyrrhura subandina*) FROM IMMINENT EXTINCTION GLOBAL.

By: COLOMBIA WILD CORPORATION

SUMMARY

The most optimistic projections of the Sinú parakeet (*Pyrrhura subandina*) population consider that there are between 15 and 49 specimens, in the Sinú river basin in Colombia. This bird, endemic to Colombia, is on the verge of extinction due to anthropogenic causes: (i) Deforestation of habitats for farming and illegal mining activities. (ii) Traffic, consumption and illegal hunting. The **COLOMBIA WILD CORPORATION** has assembled a technical table to recover this small bird, composed of representatives of the Zenú indigenous community (cohabitant with our parakeet), CARSUCRE, Unisucre, IUCN, and the **COLOMBIA WILD CORPORATION**. We have proposed 3 strategies to guarantee the conservation of this species: (i) Declaration of 1600 hectares as a protected natural area in ecological corridors of the target species. (ii) Wild artificial nests, without human intervention, so that our parakeet does not get used to humans. (iii) Tracking, reporting and dismantling of illegal trafficking outbreaks in the Sinú river basin. In this plan, we present our strategies with 4 components (i) Educational: training for the indigenous community. (ii) Conservation: protection and restoration of habitats of the species. (iii) Sustainability: Creation of the biodiversity secretariat in the Zenú indigenous reservation, whose corporate purpose is the conservation of this bird. (iv) Communication: Inform the national and international conservation community about the project to stimulate conservation in the area. (v) Monitoring: Tracking of ecological corridors of the target species, threats and evolution of populations.





CONSERVATION PLAN

1. ECOLOGY

In Colombia this species inhabits the humid forests, Andean forests up to 2,200 m and vegetation sub-xerophytic near Santa Marta (Rodríguez- Mahecha 2002; J. Moya, data no published). Does local migrations (Barbosa et al. 1986; Rodríguez-Mahecha 2002; Strewe and Navarro 2003; J. Moya, data no published) between feeding areas in lowland and breeding at altitudes greater than 1000 m on the north-western slope Sierra Nevada (J. Moya, data not published). This situation suggests a migration from the high Magdalena valley to the Amazon through the Eastern Cordillera (Rodríguez-Mahecha 2002). It's kind gregarious and groups follow daily patterns going out to eat at dawn and returning in the late afternoon to spend the night in communal roosts (Flórez and Sierra 2004; J. Moya, unpublished data).

Their diet is made up of seeds, nuts and berries of a variety of plants (Munn 1988; Abramson et al. 1995 in Renjifo et al. 2002; J. Moya, unpublished data). Use cavities in rocky walls and in trees to sleep and nest (Flórez and Sierra 2004; Toro et al. 2007; Arcos-Torres and Solano-Ugalde 2008). On the north-western slope SNSM nests frequently on dead palms, which makes them prone looting of clutches (J. Moya, data unpublished). In the headwaters of Guachaca (Magdalena) monitoring an active nest revealed a period of courtship and intercourse between the second and

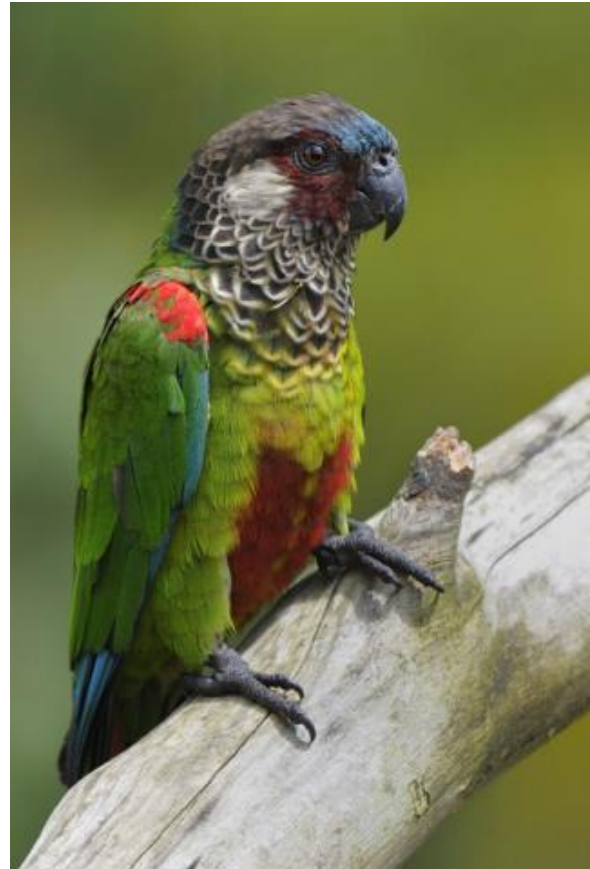
fourth week of January, posture during the second and third week of February, incubation between the second week of February and the second week of March, chicks between the second week of March and the last week of May and breeding in flight from the last week of May and first week of June (J. Moya, unpublished data).

POPULATION

Todd and Carriker (1922) mentioned that this was the most common macaw in the region of Santa Marta. During 2008 a maximum of 30 individuals in the PNN Tayrona and its buffer zone (J. Moya, unpublished data), while in the La Guacamaya Reserve Green 50 specimens were observed (J. F. Alzate and C. Navarro obs. pers.). In Sabanalarga and Liborina (Antioquia), 156 individuals were reported in four censuses (Flórez and Sierra 2004). In the mountains of Los Churumbelos groups of 12 individuals and up to ten individuals in the PNN los Picachos (Salaman pers. comm. and M. Alvarez in litt. in Rodríguez-Mahecha 2002). In the mountains groups of ten and eight have been observed in the Perijá individuals. BirdLife International (2009x) estimates a population between 1000 and 19 999



individuals.



THREATS

Habitat destruction is the main threat and the phenomenon of migration between areas of feeding and reproduction makes it more sensitive. This species is threatened by exploitation for the pet trade (Barbosa et al. 1986; Renjifo et al. 2002; J. Moya, data no published), although it is not as marked as in the other species of this genus (Rodríguez-Mahecha 2002; Flórez and Sierra 2004; Sierra 2004). Feathers are not used as ornaments ceremonial in indigenous communities but it's frequently found on peasant ranch walls as curiosity and decoration (Rodríguez- Mahecha 2002).

LIFE STORY

Populations of this species are found in the Tayrona, Tinigua, SNSM, Los national parks Picachos, Las Orquídeas, Serranía de la Macarena, Serranía de los Churumbelos, Macuira and Cueva de the Guácharos. There are observations in the Reserve Los Besotes and El Oso Natural Reserve Forestal Protectora Montes de Oca, in the reserves Private Quebrada de Valencia, Sinú parakeet and Buena Vista. Projects are running led by the Alliance for Ecosystems foundation Critics (Alpec), to increase success reproductive of the species by means of boxes of nesting in the towns of Guachaca and La Tagua (north-western slope of the SNSM); exist records in the AICA Cerro



Pintado, Valle del río San Salvador, Río Frío and Cuchilla de San Lorenzo (BirdLife International 2009x). It is in the CITES Appendix I (UNEP-WCMC 2015).

CONSERVATION ACTIVITIES

Action Plan for the conservation and study of the Sinú parakeet in the Sinú river basin. Based on a series of policies defined during the work carried out, the following action plan is presented that seeks to maintain the conservation activities of the species within the forest reserve.

In the plan, priorities are assigned to the different activities that are proposed, in the short, medium and long-term contexts, defined from the needs of the species against specific problems. The tasks that are defined in the short term, have a maximum period of one year, from the beginning of the execution of the plan. Those of medium and long term, three and five years, respectively.

Main objective of the Plan. Improve the conservation status of the Sinú parakeet (*Pyrrhura subandina*), in the Sinú river basin through its study, protection and management of habitats. Policies, actions, activities and actors. For the proposed action plan, a vital point is the definition of the roles of the actors who will be involved in supporting the policies, actions and activities of the proposal.



Currently, the actors are located on different levels from which their possibilities of effective participation are defined. It can be said that the community in general, through the development of its subsistence activities in the field, can be support in terms of the application of the different actions that, from the local level, have a direct impact on the regional conservation status of the species. Some landowners on which the species is found simply strive to make their land productive, sometimes causing damage to areas of interest to the Macaw. However, its possibilities for action are very wide, and could become the articulating axis of local change processes.

On the other hand, official Organizations, and non-governmental organizations, take actions to solve some problems that make up the bigger problem. In coordinating these actions, the success of conservation can lie. In general, and with the intention of reaching the ideal situation for the species through the guiding objective of this plan, four policies



were developed that are articulated by the participation of the aforementioned actors, which are accompanied by their respective actions, activities, and also for the priorities they have in time for compliance.

The first policy, Development of an information system for monitoring the population states of the species (see

Table 1), responds fundamentally to the need to complete and maintain knowledge levels of the species in Sinú river basin, in relation to the possibilities that they have, through knowledge, for their conservation. In addition, it wants to implement a model that allows the species and its threats to be monitored over time.

Table 1. Summary table of Policy 1: Development of an information system to monitor the population states of the species.

Policy 1. Development of an information system for monitoring the population states of the species			
Action	Activities	stakeholder	Timeplace
Consolidate a foundation of data updateable in SIG, about the records distribution and ecological notes of the species.	Base Development data.	Universidad de La Guajira, ONG, CARUniversidad de La Guajira, ONG, CAR	short term
	Establishment of GIS project.		
Assess the status of populations of the Species in the Department	Evaluation project of sizes and states populational	Universidad de La Guajira, ONG, CAR	short term
	Analysis project population viability		
Develop studies on the ways of use of habitat by species and its distribution in the Department	Follow-up project of populations with satellite telemetry	Universidad de La Guajira, ONG, CAR	short term
	Prediction project ecological habitat for La Guajira		
Develop a protocol, within a frame inter-institutional and arranged with communities for the monitoring of populations.	Principles development and Methodologies for species monitoring in the department.	Universidad de La Guajira, ONG, CAR	short term
	Development of indicators for state assessment		



	populations in the Department.		
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The definition of the second policy, establishment of an education program Environmental to increase information on the existence and threats of the species in the Department (see Table 12), aims to respond to conservation effective of the species, from the extension of the basic knowledge necessary to build a conception of respect and understanding

for the species and its current ecological realities. It also aims to structure processes of cognitive in which the community is linked from their knowledge and understanding of the specific realities of the areas, in the investigation and monitoring of the populations of the Macaw.

Table 2. Summary table of Policy 2: Establishment of a program of environmental education to increase information on the existence and threats of the species in the Department.

Policy 2. Establishment of an environmental education program for increase information on the existence and threats of the species in the Department.			
Action	Activities	stakeholder	Timeplace
Provide communities present in the areas of current distribution and probable knowledge about the species and the importance of your presence in the area	Conduct workshops awareness in communities with presence of the macaw on the Ecological importance and species aesthetics Also about their threats.	Universidad de La Guajira, ONG, CAR	short term
	Create and distribute Information Practice (posters) in the which is the species and the plan to the community.		
	Disseminate the status of the species and the action plan in Massive media		
Extend information about the species and its limiting resources, in higher levels influence on making decisions (owners land and administrators) in areas with presence of these.	Develop close-ups of awareness in union sectors of agriculture and livestock	Universidad de La Guajira, ONG, CAR	short term



Establish schemes immersed training in formal education, in the municipal order and departmental, for the recognition of the kind of like a Need to conservation	Incorporate module threatened species in PRAES Create in institutions study groups in wild life threatened Train teachers in life conservation wild to give continuity to institutional processes	Universidad de La Guajira, ONG, CAR	short term
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Through the third policy, conservation of the Sinú parakeet through population and in-situ and ex-situ management (see Table 3), we want to generate practical tools to conserve the species in the department, to through the protection and improvement of their habitats and limiting resources. It is also sought with this, to give continuity to the development of ex-situ conservation, which are connected with the maintenance of the state of the populations of the department.

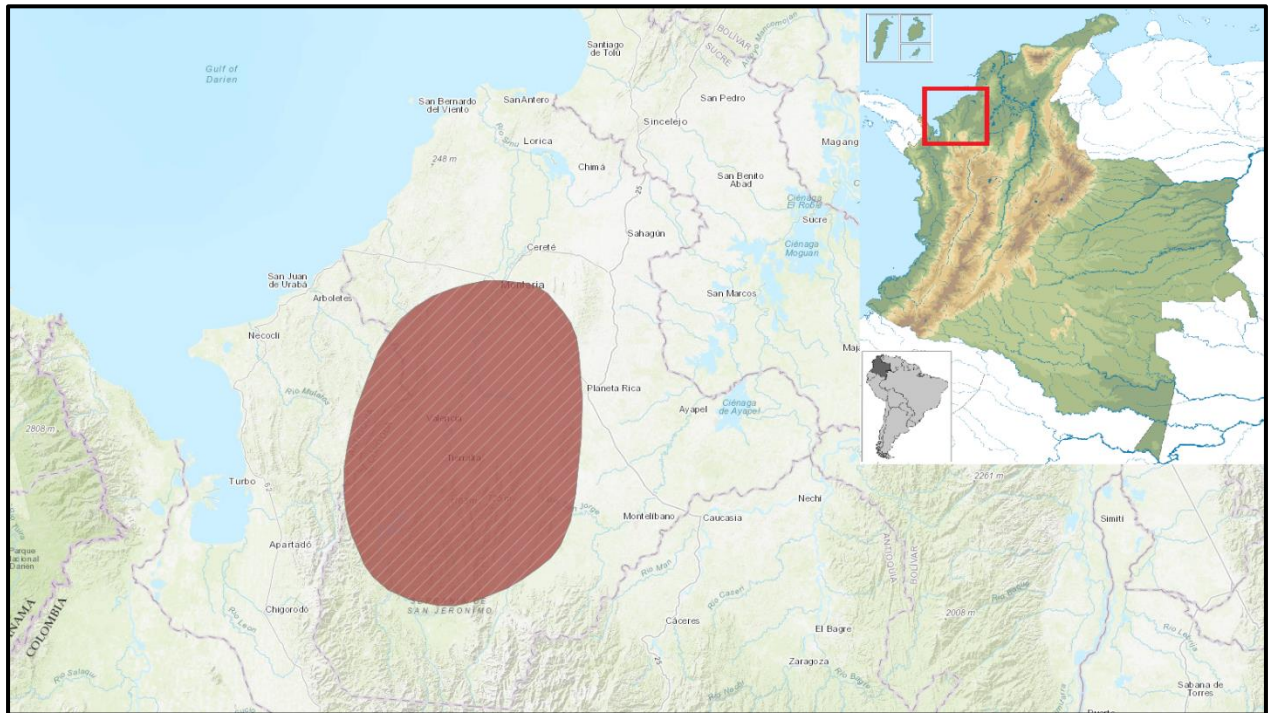


Figure 1. Geographical position of the conservation plan



Table 3. Summary table of Policy 3: Conservation of the Sinú parakeeta through population and in-situ and ex-situ management.

Policy 3. Conservation of the Sinú parakeet through the protection and on-site and ex-site management.			
Action	Activities	stakeholder	Timeplace
Determination and prioritization of areas keys to conservation of species.	Status study conservation of areas with the presence of macaws	Universidad de La Guajira, ONG, CAR	short term
	Identification of areas key to conservation of kind in the Department		
	Structuring of priority schemes for conservation in areas of interest		
Development of criteria Conservation and management of habitats.	Establishment of mechanisms and lines of action for conservation of natural areas of interest to the species.	Universidad de La Guajira, ONG, CAR	short term
	Development of criteria conservation and management of limiting resources in production systems		
Protocol development individual management confiscated.	Establishment of manuals for the treatment of individuals confiscated	Universidad de La Guajira, ONG, CAR	short term
Protocol development captive breeding and reintroduction of individuals.	Development of a manual captive breeding the species for Zoos	Universidad de La Guajira, ONG, CAR	short term



	Experiments in reintroduction of individuals in between natural (including restored media		
Programs of restoration of habitat and resources limitations in areas of interest.	Proyecto de nidos artificiales	Universidad de La Guajira, ONG, CAR	short term
	Repoblación vegetal con especies		

The fourth policy, strengthening institutional capacity for the development of the action plan (see Table 4), ultimately seeks to provide and develop spaces in which institutional actors can pool their efforts, according to its possibilities, to effectively advance the action plan for the conservation of *Pyrrhura subandina* throughout the department.

Table 4. Summary table of Policy 4: Capacity building institutional for the development of the action plan.

Policy 4. Capacity building institutional for the development of the action plan.			
Action	Activities	stakeholder	Timeplace
Development of agreements interagency for developing actions conservation and flat study specific plan action	Project development sets in handling habitats	Universidad de La Guajira, ONG, CAR	short term
	Regulation and agreement on forms of intervention in the habitats		
	Joint programs dissemination, monitoring and implementation of the plan		



<p>Organization of a network Inter-institutional of monitoring the plan action for the species.</p>	<p>Establishment and improvement of indicator system Development of a system monitoring and self-assessment of development of the plan action, focused on feedback and adjust policies, actions and strategies.</p>	<p>Universidad de La Guajira, ONG, CAR</p>	<p>short term</p>
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CONCLUSIONS AND RECOMMENDATIONS

The Sinú parakeet, in the RFP, is threatened under the category IUCN Regional; EN b1ab (iii) (In danger for presenting an extension of presence less than 5000 km², with severely fragmented populations and with a loss of extension and habitat quality continuous in the time that must to the interventions of the territory).

The distribution of the Sinú parakeet (*Pyrrhura subandina*) in the RFP Montes de Oca, depends on the supply and distribution of the resources it requires, specifically palm stumps to establish their nests and food sources. The presence of the species in wooded areas was associated with the areas that Palm stumps and food sources were present. Limiting resources for the species are extremely located and isolated, causing populations of the species to keep

fragmented. The fragmentation, isolation and specific location of the population increases the possibility of aggravating its conservation status due to interspecific interactions, illegal hunting and trade.

The main cause of problems that define threats to the species are inadequate cultural practices in the intervention of the territory. The strongest threat that the species has in the department is the fragmentation of their populations, caused among others, by interactions inter-specific, hunting and trade, and habitat loss.

Lack of knowledge about the species, its threats and ecological importance, can increase the levels of threat that the species has in the present.



The methodology used in this study was adequate to comply with the objectives formulated. The conservation of the Sinú parakeet depends on the will to cooperate in the multiple actors that make or will be part of the extinction processes or conservation of the species. The methodological protocol proposed in this study is open to other Subsequent information that may feed into the results obtained. The execution of the conservation plan for the Sinú parakeet (*Pyrrhura subandina*) is a priority in the department of La Guajira. Work at local levels is a way of intervening in the instances national or global, which is shown as a convenient approach to resolution of environmental problems from management proposals.

RECOMMENDATIONS

In-depth research into relationships is required ecological, habitat use and distribution of the species in the department. It is important to extend the limits of this study in your regional context, to better understand the realities of the species and define a conservation status at the eco-region level.

For the conservation of the species in the department, it is proposed as urgent, defining meeting points between the different actors who have to do with the development of the action plan. The constitution of a working group on regionally threatened species, It will be a very important space for the redefinition of threat levels and the establishment of conservation plans for unknown and rare species. Extending programs is recommended as a priority for conservation environmental education, training and mass dissemination about the ecological goods and services offered by the Macaw. It is recommended to include the Macaw, as a priority species for institutional conservation actions in the department.

It is necessary to strengthen the work of dissemination and collection of information through of environmental institutions and different actors of the Department, such as the Umatas, the NGOs, the Universiti



es among others. The captive breeding research programs of the species, in order to be able to advance in natural repopulation programs and reintroduction. A good way to extend the scope of the regional conservation program of species, is through inter-institutional cooperation agreements with research centers, conservation organizations, groups community and universities. The comprehensive conservation of the Sinú parakeet depends on the way in which, in a single practical vision, the different disciplines that make up conservation science.

The University of La Guajira, through its Environmental Engineering programs, Social Work and Biology, must commit to the development of projects specific in the processes of investigation and management of threatened species and especially of the Sinú parakeet.

It is pertinent to establish a management group for the conservation of the biodiversity at the University of La Guajira, in which new approaches to address the conservation of threatened species contexts local, regional and national. A very effective way to sensitize the community to the importance to conserve the species and its habitats, is to develop an ecotourism program that has as its destination, the observation of macaws in their environments natural.

It is recommended as a priority, that awareness campaigns and education, develop on proposals for mass dissemination such as posters, mass media and surveys. It is recommended to extend the vision of regional work to other disciplines that, from their specific work, they can help intervene problems established in levels more general.

Given the acceptance of the project and the current conditions of conservation of the forests of the Montes de Oca Protected Forest Reserve, can be defined this area as a suitable site for developing short-term actions research, closely linked to conservation activities through community and civil society organizations.

Sampling and event logging should continue, not only in the study area but expand to other areas to have a real balance of the status of populations in the department and migratory activities. It is recommended to do a stool study to find out if the psittacines may have a seed



dispersal role for some plant species. Point that can be taken into account for reforestation plans.



It was imperative to identify among the birds eating the juveniles, to know when they start to feed themselves and even when they accompany the parents to feed.

This is an aspect of macaw biology that can assist reintroduction programs. In order to carry out future studies, it is important to record the height at which is producing foraging and nesting events to find out if the height

it is a key factor for them. This is very useful for reforestation programs if important plant species for these birds are sought. This study should be taken into account in the reforestation plans of areas of conservation to ensure the permanence of these birds. And you can also take advantage of the plant species

that serve as food for the macaws that have economic value like the Ceiba *Ceiba pentandra* and the Snail *Anacardium excelsum*.

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