

# ANDEAN CAT ALLIANCE



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**STRATEGIC PLAN**  
**2011 - 2016**

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### **Final Edition**

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Arica & Parinacota Region - Chile.



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# **FOREWORD**

**The Wildlife Conservation Network (WCN) has been a supporter of the Andean Cat Alliance (AGA) since its inception. It was a generous grant by WCN board member Christine Hemrick which facilitated bringing together Andean cat researchers from each of the range countries to California in 2003 for the WCN Expo. This meeting provided the members the opportunity to collaborate and decide that united they stood a much better chance of saving this most elusive and wonderful cat. It was shortly after this meeting that AGA was founded.**

**Through the years WCN has been proud to offer support and assistance to AGA. However, it has been the initiative and determination of the members of AGA which has allowed the organization to grow and prosper.**

**The Andean Cat Conservation Action Plan, published in 2004 as the first action plan created for any South American felid, played a key role in organizing and prioritizing research and conservation actions throughout the cat's range. This Strategic Plan will take it to the next level and direct AGA's actions over the next five years. It is more than a collaborative effort of scientists and conservationists from across the cat's range. It represents a blueprint for conservation which ensures the long-term survival of this rare and enigmatic creature.**

**WCN is proud to have supported AGA from the beginning and recognizes its many accomplishments to date. We look forward to the successful implementation of this ambitious plan and to a secure future for the Ghost of the Andes.**

**Elaine Iverson  
Program Manager, WCN**

**Charles Knowles  
Executive Director, WCN**

# **PREFACE**

This Strategic Plan sets a new phase for the Andean Cat Alliance (AGA), which seeks to consolidate its actions, based on the achievements and experiences developed over its 11 years of existence, from its inception in 1999 as the Committee for the Conservation of the Andean Cat to our vibrant present.

This document was developed following an assessment of the conservation actions taken by AGA members all these years, particularly those outlined in the Andean Cat Conservation Action Plan (PAGA) published in 2004. The PAGA was the first strategic tool developed by AGA; it emerged from a need to guide and coordinate research and conservation actions contributing to the knowledge and effective protection of the Andean cat and its habitat.

AGA's Strategic Plan reaffirms the commitment of its members to continue with these efforts. Furthermore, the Plan will provide a framework for other conservationists and their actions to protect High Andes biodiversity. The implementation of this Plan will not only contribute to Andean cat conservation, but hopefully also to the protection of many other species that share the habitat and face similar threats, particularly those related to the modification or loss of the High Andes habitats. AGA recognizes the need to work under a regional perspective and in alliance with other groups and institutions whose conservation objectives are similar.

This document was drawn up during the V and VI International Workshops for Andean Cat Conservation (2008, 2009) and was possible by the participation and hard work of many AGA members, under the leadership and major contribution of Rocio Palacios, who was AGA's General Coordinator between 2008 and 2010.

We are very grateful to the Wildlife Conservation Network (WCN) and to those who have funded us through WCN, for their continued support to implement many conservation actions under the AGA umbrella all these years, and for funding the meetings that lead to the production of this strategic plan. Our special thanks go to Christine Hemrick, Bosack & Kruger Foundation, Disney On Line Studios Canada, Isabella Rosellini, Disney Wildlife Conservation Fund, CGMK Foundation, Charles Knowles, ESRI, Larry and Rachael Bowman, Sidney Byers Charitable Trust, Ian Anderson and the Tapeats Fund. We also want to thank the support of other donors and many volunteers, their financial or affective support made it possible for the Alliance and its members to achieve significant goals toward the conservation of these magnificent animals.

**M. Lilian Villalba M.  
General Coordinator  
Andean Cat Alliance**

# EXECUTIVE SUMMARY

The IUCN endangered Andean cat (*Leopardus jacobita*) is considered the most threatened felid in the Americas and is listed among the five most threatened cats in the world. Until recently the Andean cat was also considered one of the least known felines in the world, but in the last decade, and thanks to a coordinated effort of the Andean Cat Alliance (AGA) members, a much better understanding of the species' biology and conservation needs has been achieved. Furthermore, and largely through the implementation of AGA's Action Plan for the Andean Cat Conservation (PAGA) formulated in 2004, great advances have been made to protect the Andean cat and its habitat, and to increase public knowledge of its conservation plight.

The Andean cat is found in the central high Andes of Argentina, Bolivia, Chile and Peru, and at lower elevations in the northern Argentine Patagonia steppe. All localities where the species has been recorded to date, share similar habitat features such extreme weather conditions, dominated by cold and dry environments, rocky areas patchily distributed, with sparse vegetation and the presence of its main prey, the mountain vizcacha (*Lagidium* spp.). The main threats to the Andean cat are related to habitat disturbance, hunting and decline of prey populations, and the intensity of these factors varies among the range countries. During a re-evaluation in the 2009 AGA meeting, habitat loss, habitat degradation and hunting were ranked as the major threats to Andean cat conservation.

This Strategic Plan, aimed to guide AGA efforts in the next five years, is structured under three main areas: Research, Education & Community Participation, and Conservation-oriented Management. Based upon the experience and knowledge gained since the PAGA was published, and gaps identified during a strategic planning process straddling the V and VI International Workshops for Andean Cat Conservation of 2008 and 2009, more specific activities are proposed in this Strategic Plan to achieve the following objectives:

- a. To ensure long-term conservation of the Andean cat and its natural environment, including the restoration or rehabilitation of the environments that have suffered degradation.
- b. To integrate the conservation of the Andean cat and its natural environment within local policies in the four countries where the species is present, working locally but with a global approach.
- c. To strengthen activities of conservation and research in protected areas with Andean cat populations, and to promote the creation or extension of existing protected areas to provide connectivity and/or protection of habitats and Andean cat populations.
- d. To promoting research on the conservation threats, ecological requirements of the species, its principal prey, and other sympatric carnivores.
- e. To standardize the activities of working groups under common and more effective goals.
- f. To train protected areas staff and local communities in activities in research, education and conservation tasks; within and outside said areas.

While this Strategic plan will guide the research and conservation activities of AGA members in the next five years, continuous assessment of its implementation is essential in order to evaluate AGA's conservation achievements and setbacks, and adapt the planned objectives and actions accordingly.

# CONTEXT

## The Andean cat and its Habitat

The Andean cat (*Leopardus jacobita*) is a small feline found in the high Andes of Argentina, Bolivia, Chile and Peru and in the northern portion of the Patagonian steppe in Argentina. It is considered the most threatened felid in the Americas and one of the lesser known cats worldwide (Brodie 2009), being among the five most endangered cats in the world (Nowell and Jackson 1996).

Its fur is predominantly ash grey with reddish or yellowish brown blotches that are arranged vertically on both sides of the body, giving the appearance of continuous stripes. It is characterized by a very long tail (66 to 75% of head and body length), thick, cylindrical and of fluffy appearance with 6 to 9 wide dark brown to black rings. Its forelegs also have incomplete bands or dark spots that do not fully form a circle (Yensen 2000, Villalba *et al.* 2004).

Andean cats inhabit not only the Andes, but also Patagonia. Common characteristics of the different environments where the Andean cats inhabit are aridity and extreme temperatures, with sparse vegetation and heterogeneous geomorphology, consisting of patchy rocky habitats that rise in a predominantly flat landscape (Marino *et al.* 2011). Those rocky patches are diversity hotspots in these high cold deserts, especially in areas near to water flows. Possibly, the existence of watercourses is an important factor for the presence of the Andean cat. Another relevant factor is likely to be the presence of mountain vizcachas or chinchillones (*Lagidium viscacia*, *L. peruanum*), permanent residents of rocky outcrops. This small rodent is the main prey of Andean cat (Napolitano *et al.* 2008, Walker *et al.* 2007a) and is a rock specialist. Although there is still scarce information on the Andean cat and its requirements, it is believed to have a naturally fragmented and highly fragile habitat. The specificity of the vizcachas to rocky environments (Walker *et al.* 2007b, Walker *et al.* 2003) is probably also a factor influencing the Andean cat distribution and the density of its populations (Reppucci *et al.* 2010).

The potential distribution of the Andean cat has an estimated area of 1,172,300km<sup>2</sup> (Marino *et al.* 2011) covering four countries and areas with a high cultural, social and economic diversity. While it is likely that the area actually occupied by this species is considerably smaller, this extension creates a challenge in terms of conservation strategies, due to the different attitudes of local communities in their interaction with the species. The Andean cat, along with the Pampas cat (*Leopardus colocolo*) are considered sacred species by some Andean cultures, while others present a clearly negative predisposition to these cats. The distribution of human populations is also diverse, decreasing the human density while increasing latitude.

The combination of these remarkable geographical-social factors creates a necessity for innovative strategies for the study and conservation of the Andean cat and its habitat, structuring projects at regional level, but feasible enough to include local realities of the different application sites. The horizontal organizational structure of the Andean Cat Alliance seeks to transcend geographic limitations established by international borders, working with a global ideal while respecting local realities.

## Conservation Threats

During the V International Workshop for Andean Cat Conservation, held in Arequipa, Peru in 2008, the threats affecting Andean cats, identified in the Action Plan for the Andean Cat Conservation (PAGA, Villalba et al. 2004) were reviewed. This re-evaluation of threats across range countries benefited from increased knowledge of the species distribution and presence and led to a ranking of threats with priority interventions to address and minimize their effects (Table 1). Habitat loss and degradation were identified as the main threats and potential indicators were proposed to measure impacts of direct threats. In the previous evaluation (Villalba et al. 2004) the main threat was identified as traditional hunting, followed by reduction of prey populations and habitat loss and fragmentation.

**Table 1: Ranking of direct and indirect threats affecting Andean cats and some possible interventions to minimize their impact**

Ranking	Direct threats	Indirect threats (causes)	Interventions
1	Habitat loss	Various forms of land use including mining, and water extraction, potentially increased by climate change.	Creation of protected areas and consolidation or improvement of existing ones; lobbying with government and the industry sector; implementation of existing legislation; involvement of local communities on conservation and land use decisions; research on desertification processes affecting the Andean cat.
2	Habitat degradation	Inappropriate pastoralist and agricultural practices; unregulated tourism; mining, oil/gas extraction; unregulated use of water.	Working with communities to improve livestock management; lobbying with governments, industries and local communities to regulate tourist activities; implementation of existing legislation; implementation of water management plans when existing; research on the impacts of habitat degradation on Andean cat populations.
3	Opportunistic/palliative Hunting	Conflicts with small livestock breeding; lack of knowledge of the species by local community members; presence of dogs, incidental capture.	Conflict mitigation, community education, implementation of existing legislation; research on the most effective methods to mitigate conflicts and improvement of perception of the species by local people.
3	Traditional Hunting	Religious use of skins or taxidermy, hunting due to traditional beliefs.	Community education; rekindling of traditional knowledge
4	Reduction of prey populations	Hunting, presence of domestic dogs	Community education; implementation of existing legislation; research on predator-prey dynamics.
5	Introduction of diseases	Dogs and cats as reservoirs and/or vectors	Research to determine the true extent of this threat.
6	Hybridization	Sympatric with phylogenetically related species ( <i>L. colocolo</i> )	Research to determine the true extent of this threat.

It is expected that this re-categorization would facilitate integration of conservation actions addressing the most significant threats. In this way, it may be possible to attain more effective conservation interventions to protect Andean cat populations and their habitat. Potential indicators to measure their impacts were also identified during the workshop (Table 2).

**Table 2: Measurable indicators of direct threats to Andean cats**

Rank	Direct Threats	Indicators	Parameters
1	<b>Habitat loss</b>	Mining and oil/gas exploitation.	Area affected, directly and indirectly. Changes in affected area. Intensity of resource use. Presence of Andean cats in disturbed areas.
		Desiccation of wetlands and water bodies due to water extraction for mining and urban centres.	Water bodies affected and volume of extraction; direct and indirect effects on associated habitats: cushion bogs (bofedales), meadows (vegas) and marshes (mallines); changes in hydrological systems (modelling); loss of suitability habitat for Andean cats.
		Expansion of the agricultural frontier.	Altitudinal distribution and new areas used for agriculture in a period of time.
		Climate change.	Short and long-term variations in precipitation and temperature changes predicted at regional scale (modelling).
2	<b>Habitat degradation</b>	Distribution, intensity and type of livestock and grazing regimes.	Area affected. Livestock densities in relationship to local carrying capacity.
		Vegetation condition and productivity.	Changes in NDVI (remote sensing data). Comparisons across vegetation types under different livestock management options.
		Distribution and intensity of tourism.	Area affected by this land use. Area and degree of disturbance from off-road driving including number of vehicles
		Mining and oil extraction, roads, pipelines and power lines.	Area affected, directly and indirectly Increase of the affected area.
		Pollution	Air and water quality, amounts of solid waste Changes on wetlands affected (cushion bogs, meadows and marshes).
3	<b>Opportunistic/palliative hunting</b>	Hunted animals, confiscated animals or animal parts.	Number of animals or court cases.
		Trafficking of endangered animal parts, with special emphasis on the Andean cat.	Identification of sales sites and counting skin numbers per site. Number of criminal convictions.
		Loss of domestic animals by predation (confirmed cases).	Number of predated animals, species and age, economic losses, identification of predators. Location of the event. Studies of mitigation measures.
		Number of dogs in rural settlements	Counting of dogs, use of dogs (as shepherds, for hunting, as pets).

**Table 2 (continuation): Measurable indicators of direct threats to Andean cats**

Rank	Threats (direct)	Indicators	Parameters - Studies
3	<b>Traditional Hunting</b>	Number/proportion of rural homes with Andean cat skins.	Identification of houses with Andean cats skins. Database of existing skins. Views and reports from local communities.
4	<b>Reduction of prey populations</b>	Status of mountain vizcacha populations.  Proportion of people who practice subsistence hunting on Andean cat preys.	Changes in abundance, from monitoring estimates. Diet of Andean cats in affected areas.  Views and reports from local communities; proportion that practices subsistence hunting; game volume.
5	<b>Introduction of diseases</b>	Disease prevalence in wild carnivores and domestic dogs and cats.  Disease prevalence in prey populations (native and exotic).	Prevalence of micro and macroparasites.  Prevalence of micro and macroparasites of native and exotic (i.e. European hare) prey populations.
6	<b>Hybridization</b>	Hybrids and their geographical distribution	Signs of hybridization in genetic samples of <i>L. jacobita</i> and <i>L. colocolo</i> .

# THE ANDEAN CAT ALLIANCE

## AGA Mission

The Andean Cat Alliance (AGA) is a multinational and interdisciplinary network whose mission is to contribute to increase the knowledge and conservation of the Andean cat and its habitat, applying innovative strategies in research, conservation actions, community participation and providing support in the management of wild areas.

## Vision

We aspire to the conservation and long term maintenance of Andean cat populations and their habitat, in harmony with rural communities.

## Postulates

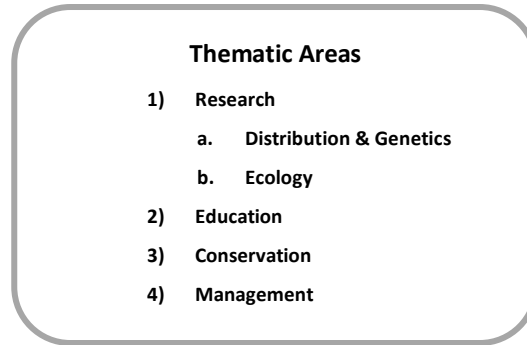
- The conservation of nature and its various components is beneficial to mankind, both through the possibility of current or future direct or indirect use as well as for their ethical and aesthetic value.
- The Andean cat conservation contributes to protect that of the other components of the species' habitat.
- As a charismatic species, the Andean cat captures "focal" attention from the public. This condition can contribute positively to conservation projects and make it easier to change a previously negative attitude towards the species and thus promote effective conservation actions.
- Research, management actions, education and local community participation are essential components to achieve long-term conservation of the Andean cat and its habitat.

5

## Internal Structure and Operation

Until 2008 the internal structure of AGA was formed by a General Coordinator and a Country Representative. A new model was agreed upon, in accordance with the new Global-AGA guideline, which seeks to overcome international borders; it was determined that the old structure "by country" went against the new approach, posing a need of reorganize AGA. Therefore, a new structure emerged, considering thematic areas as it is shown in Figure 1.

Each area has two coordinators (main and assistant coordinator) and associate members. All active members of AGA can join to the Areas they consider relevant to their work.



**Figure 1: Thematic areas considered for developing AGA actions**

The Country Representative's role remains mainly as political figure to interact with national authorities. Ideally a Country Representative is also an Area Coordinator in order to make human resources and internal functions more effective. The specific functions of each of these officials were revised in the V Workshop of Andean Cat Conservation. The results are listed below.

**Functions of General Coordination**

- a. Represent AGA before the international community
- b. Spread the mission and activities of AGA
- c. Coordinate the flow of information to members
- d. Organize work on each Area with Council members
- e. Provide guidance to AGA members, when requested
- f. Accept recommendations for new members and send out invitations
- g. Maintain a database of AGA members
- h. Report the addition of new members to the AGA Email list
- i. Supervise the operation and maintenance of the Webpage
- j. Act as a liaison between AGA and donors (in particular with WCN)
- k. Evaluate projects for funding and to give suggestions
- l. Coordinate the evaluation of projects submitted by Council members
- m. Endorse funding proposals, in coordination with Council members
- n. Coordinate the delivery of reports to Council members
- o. Prepare an annual statement to donors, with a revision from the Council
- p. Coordinate the preparation of formal reports to WCN and to other donors according to their requirement.

**Functions of the AGA Council**

- a. Assist the Coordination in required subjects
- b. Channel the flow of technical information within AGA
- c. Provide guidance to AGA members, when requested
- d. Facilitate and encourage researchers to work together within and across the thematic areas

**Functions of the Coordinators of the Thematic Areas**

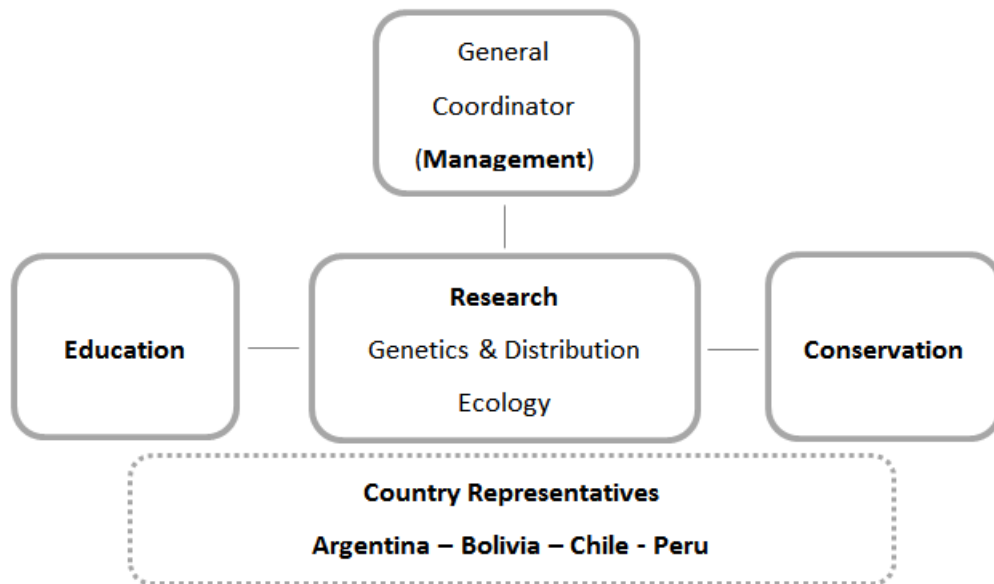
- a. Coordinate the activities within each area and prepare proposals for action
- b. Coordinate the prioritization of activities that should be carried out within each area, while respecting the needs of each location
- c. Prepare proposals for the area for funding

- d. Provide guidance to AGA members, when requested
- e. Coordinate the flow of information/data from members of the area, to the Council and General Coordinator.
- f. Perform other actions requested by the Council or the Coordination.

**Functions of Country Representatives**

- a. Represent AGA before the national community
- b. Spread the mission and activities of AGA
- c. Provide guidance to members when requested
- d. Coordinate the flow of information/data from members of the country to the Council and the General Coordinator
- e. Endorse the proposal of new members of AGA by consulting with other members and submitting to the Coordinator
- f. Assist in the organization of workshops and other meetings relevant to AGA members in their home country
- g. Evaluate projects for funding and give suggestions
- h. Evaluate the projects submitted by other countries
- i. Monitor the delivery of reports by members of their home country

In Figure 2, the diagram of the new AGA Council created in 2008 is shown; each position is maintained for two years and may seek re-election once. This Council is in permanent session, and its aspiration is to take action in a transversal mode, promoting interaction and communication between Areas.



**Figure 2: Diagram of the Andean Cat Alliance Council created during the "V International Workshop for the Andean Cat Conservation" held in Arequipa, Peru in April 2008 and amended in Mendoza, Argentina in August 2009.**

## Historical Summary of the Andean Cat Alliance

<b>1996</b>	The Cat Specialist Group (CatSG) of the International Union for Conservation of Nature (IUCN) included the Andean cat among the most endangered cats of the world and among the least known species.
<b>1997</b>	Field surveys began in Argentina, Bolivia and Chile in an independent manner.
<b>1999</b>	During the First International Workshop on Andean Cat, the Committee for its Conservation (COCGA) was formed, between researchers from Argentina, Bolivia and Chile (San Salvador de Jujuy, Argentina, 1999).
<b>2003</b>	The NGO Wildlife Conservation Network organized a Strategic Planning Workshop for Andean cat among researchers of the four range countries (Peru joined) and COCGA was renamed as the Andean Cat Alliance (AGA). AGA members began the development of the Action Plan (San Francisco, California, 2003).
<b>2004</b>	AGA organized the Third International Workshop for Andean Cat Conservation where the Action Plan was discussed (Arica, Chile, 2004). Subsequently the document "The Andean Cat: A Conservation Action Plan" (PAGA) was published in Spanish and English.
<b>2006</b>	The representatives of the four countries met at the Fourth International Workshop for the Andean Cat Conservation. The main objectives of this meeting were to analyze the achievements made under the PAGA, review the organization of AGA and generate coordinated actions of conservation (La Paz, Bolivia, 2006).
<b>2008</b>	Again, representatives of the four countries met in the V International Workshop for Andean Cat Conservation. The purpose of this meeting was to complete a thorough analysis of the functioning of AGA with its strengths and weaknesses. Also a review of the progress made in the application of the PAGA was done. The need to construct a strategic plan for updating the objectives and conservation measures specified in the PAGA came as a result. AGA also underwent an internal restructuring, seeking to encourage international collaborative work (Arequipa, Peru, 2008).
<b>2009</b>	During August 2009, as part of the 10th International Congress of Mammalogy held in Mendoza, Argentina, the VI International Workshop for Andean Cat Conservation took place. This workshop was attended by most members of the AGA Council, and with representatives of the four range countries. The activities included intensive work on developing the Strategic Plan.

## Andean Cat Alliance Achievements

The Action Plan for the Andean Cat Conservation (PAGA) had an exceptional relevance at the regional level, making the Andean cat the first South American felid to count with a document that specifies the guidelines to organize and prioritize research and conservation actions throughout the distribution range of the species. The PAGA counts as one of AGA's major achievements, along with the development of a global strategy for conservation education (Merino 2006) and a common sampling protocol (Cossios *et al.* 2007).

The PAGA played a key role in structuring the first AGA actions. The existing information on the Andean cat was compiled and organized in this document, which included the perceptions of local people from different geographical areas. This process identified general threats and common constraints to AGA conservation programmes. In order to address these challenges, three lines of action were established: 1) Research, 2) Education and Community Participation, and 3) Conservation Management. Under these guidelines six main objectives were instated with their respective conservation actions. Several of these actions included on-going projects, and others were conservation needs identified by AGA members.

The PAGA was intended as a 5-year plan, valid through to June 2009. A critical review of the PAGA achievements during the VI International Workshop for Andean Cat Conservation yielded a positive outcome, with many goals achieved and others clearly in progress. Thanks to this analysis it was agreed to update some targets and related conservation actions, and new relevant targets were identified. The PAGA laid down clear foundations for the Alliance, allowing its members to pursue a common goal and structuring work plans that transcend national boundaries.

An overall summary of quantitative achievements of AGA is shown in **Annex 1**. In general, multi-national and multidisciplinary initiatives are gaining ground within the Alliance in relation to immediate local goals. This is mainly due to AGA members recognized that to achieve effective conservation actions, international borders should not be a barrier. In the same manner, it favours the design and implementation of multidisciplinary projects.

Amid recent **Research-related** accomplishments, the development of a common database of Andean cat records has allowed the elaboration of a distribution map of suitable habitat for the species based on a climatic niche model (Marino *et al.* 2011). At a local scale, the first estimates of Andean cat population abundance have also been produced (Reppucci *et al.* 2011). The results of these studies confirm that even in an area of remarkable quality habitat for Andean cat, the populations of this species have low densities, lower than that of the pampas cat (Gardner *et al.* 2010).

In addition, regional reassessments of Andean cat distribution have been produced (in Argentina: Perovic *et al.* 2003, in Bolivia: Villalba *et al.* 2009a, in Chile: Napolitano *et al.* 2008 and in Peru: Cossios *et al.* 2007), and new records have been obtained in areas previously considered unsuitable for the species (Sorli *et al.* 2006, Novaro *et al.* 2010). Knowledge of ecological requirements of the species has also been acquired both of its diet and trophic interactions with other carnivores (Walker *et al.* 2007, Marino *et al.* 2010). Photographic records have also documented activity patterns (Lucherini *et al.* 2009). Home range, activity patterns and movements were studied with radio-collars in one Andean cat and one pampas cat (Villalba *et al.* 2009b). A major project that analysed the population genetics of the Andean cat and the pampas cat was completed. It was headed by Daniel Cossios in collaboration with researchers from most of the AGA working groups.

In terms of **Education and Community Participation**, remarkable progress has been made in the four range countries during the last years. Almost 2000 children, 70 teachers, 60 rangers and, more than 400 adults

attended to diverse educational workshops. More than 40 career students in science were trained and participated in various projects, either while carrying out their undergraduate or post graduate studies. About 100 rangers and 250 student rangers were given training in workshops designed specifically for them. Numerous presentations were made for the media and in peer professional conventions. The most important tools that were developed for dissemination include the AGA official web site, blog and more recently in Facebook<sup>1</sup>. A network of information on specific projects was also created: "The soul of the Andes/El Alma de Los Andes"<sup>2</sup>, and "Trans-frontier Conservation of Andean cats"<sup>3</sup>.

With regards to **Conservation Management**, the Andean cat's conservation status in the range countries was re-assessed. Currently, it is listed as *Critically Threatened* in Bolivia, *Endangered* in Chile & Peru and *Vulnerable* in Argentina. AGA participated in most recent assessment of IUCN Red List of Endangered Species, which retained Andean cat IUCN status as Endangered (Acosta *et al.* 2008). Moreover, workshops have been developed with the participation of villagers, local NGOs and government agencies in the four countries. These workshops have helped to promote more effective conservation measures. A major advance was the signing of a Memorandum of Agreement for international collaboration between authorities of Biodiversity and Protected Areas from Argentina, Bolivia and Chile, sponsored by AGA and signed in Tilcara, Argentina, in December 2008<sup>4</sup>. Under this Memorandum the parties agreed to work together to protect the high Andean ecosystem in the tripartite region. AGA members along with the Group for Conservation of Andean Flamingos are leading the creation of two new protected areas in the tripartite. In collaboration with surrounding protected areas AGA is developing and implementing the "Single Road" Project. It is designed to mitigate the impact that off-road tourism is causing in those environments that are suitable for the Andean cat and the migratory flamingo colonies.

Additionally, the presence and work of AGA members paved the way for the creation in 2009 of a new legally protected area in Peru (Regional Conservation Area Vilacota Maure in Tacna) and has initiated efforts to create a protected area of 600km<sup>2</sup> around the snowy Ausangate in Cusco, Peru, belonging to six native communities. In Mendoza, Argentina, AGA supported the designation of a protected area (Ancestral Territory Malal-Ko) belonging to an indigenous community in Mendoza, and is promoting the establishment of a protected area to compensate for the construction of a dam in Neuquén province. In Chile, AGA members are supporting the creation of a private protected area in Puritama (Antofagasta - 2<sup>nd</sup> Region). As an added benefit, numerous cooperation agreements between government and private agencies have been signed, which include objectives that promote the conservation of the Andean cat.

The production of printed material has been prodigious, and it is therefore impractical to print an exhaustive list. In the last few recent years AGA members have produced many scientific publications, numerous presentations in conferences, graduate theses and many official and technical reports. Booklets and teaching manuals, children's stories, games, paintings and short films were developed and applied in educational activities. Two manuals of field methodologies were elaborated, as well as teachers' guides and notes for general circulation.

In July 2009, as part of an internal analysis of the functioning of AGA, a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis was performed to evaluate how the structure of AGA was working, as well as the advantages or disadvantages of this structure in carrying out relevant actions. As a result of this evaluation a new organizational structure (described above) was suggested. In addition, the need to create a Strategic Plan and update the AGA objectives was established.

<sup>1</sup> <http://www.gatoandino.org> - <http://alianza-gato-andino.blogspot.com>  
<http://www.facebook.com/pages/Alianza-Gato-Andino-AGA/204268532941589>

<sup>2</sup> [www.elalmadelosandes.org.ar](http://www.elalmadelosandes.org.ar)

<sup>3</sup> [http://www.wildcru.org/research/research-detail/?theme=endangered\\_species&project\\_id=43](http://www.wildcru.org/research/research-detail/?theme=endangered_species&project_id=43)

<sup>4</sup> <http://www.gatoandino.org/archivos/ActaAcuerdoTripartitoTilcara.pdf>.

# THE STRATEGIC PLAN

## Objectives

The Strategic Plan for the Andean Cat Conservation has the following objectives:

- a. To ensure long-term conservation of the Andean cat and its natural environment, including the restoration or rehabilitation of the environments that have suffered degradation.
- b. To integrate the conservation of the Andean cat and its natural environment within local policies in the four countries where the species is present, working locally but with a global approach.
- c. To strengthen activities of conservation and research in protected areas with Andean cat populations, and to promote the creation or extension of existing protected areas to provide connectivity and/or protection of habitats and Andean cat populations.
- d. To promoting research on the conservation threats, ecological requirements of the species, its principal prey, and other sympatric carnivores.
- e. To standardize the activities of working groups under common and more effective goals.
- f. To train protected areas staff and local communities in activities in research, education and conservation tasks; within and outside said areas.

## Conservation Actions

Members of each thematic area discussed the objectives of PAGA inherent to their area to re-evaluate goals and conservation actions according to the updated threat assessment (Table 1). Although all the thematic areas are equally relevant, their conservation objectives and actions follow an order of importance. This arrangement is based on the table of direct and indirect threats elaborated during the VI International Workshop for the Andean Cat Conservation in Mendoza (Table 1). The specific objectives and identified activities are presented here in order of importance, but they are not considered to comprise an exhaustive or exclusive list. All innovative approaches will be taken into account and can be placed anywhere in the default hierarchy.

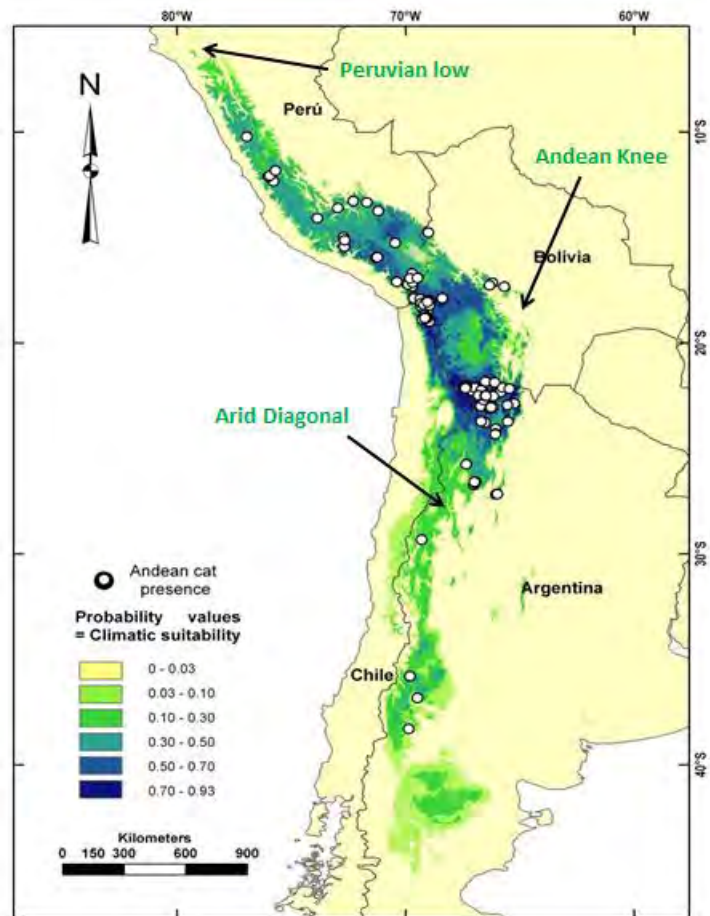
Finally, responsible participants for each activity are suggested, but this document only presents the teams that in 2010 contributed in the construction of this Plan. This list is not exhaustive, we hope that new teams can be formed, whose goal should be similar to that of the Alliance and can, if they wish, use this document to incorporate relevant objectives for the Andean cat conservation. The participants that appear under each endeavour expect to achieve satisfactory results in one or more of the suggested activities for their specific objective.

# 1. Research Area

One of the main achievements of AGA is the analysis of population genetics of the Andean cat, which included the collaboration of most AGA teams under the leadership of Daniel Cossios. Two very important results emerged from this project. First, that the Andean cat population has a very low mitochondrial and nuclear genetic diversity; and second, two groups of Andean cat populations were identified that differ in terms of nuclear and mitochondrial DNA, which would have been separated over 200,000 years ago and that should be considered as "Evolutionary Significant Units" (ESUs). The separation between these ESUs is between 26° and 35° south latitude. Furthermore, the North ESU contain two "Management Units" (MUs, i.e. groups or populations that share mitochondrial and nuclear alleles but differ by the frequency of these alleles), separated between 18° and 20° south latitude, that show limited or null reproduction between them. In addition, populations of Cuzco and Ancash (Peru) could be other MUs, although this must be verified with larger samples (Cossios *et al.* in rev.).

Since the creation of the AGA database, a model of suitable habitat distribution for Andean cat in South America was developed based on bioclimatic variables. This model was highly predictive and was successfully validated with a subset of records not used to develop the model (Marino *et al.* 2011). The spatial predictions of the model are shown in Figure 3 as a distribution map of habitat quality. In the map the bio-geographical barriers that were also identified in the genetic study are highlighted (Peruvian low, Andean Knee and Arid Diagonal).

Using as base: the distribution of suitable habitat, the Andean cat records, an analysis of level of representation of national protected areas in each range country, and an index of human impact, geographic priorities for future research, and conservation activities were derived (Table 3). This analysis only took into account the national protected areas. Private and provincial protected areas were not considered when determining the lists of priorities; therefore further studies should be conducted in areas where the percentage of such protected areas is larger.



**Figure 3.** Map showing the distribution of confirmed records of Andean cat and varying degrees of suitable habitat for the species, according to a MAXENT model (Phillips *et al.* 2006), based on four bioclimatic variables with high predictive value: average annual temperature, diurnal range, annual precipitation, and precipitation of coldest quarter (Source: Marino *et al.* 2011).

**Table 3. Geographic priorities for distribution studies and conservation activities, based on the distribution records of the Andean cat and suitable habitat for the species (see Figure 3).**

<b>Geographic Priorities</b>								
<b>Actions</b>	<b>Priorities</b>	<b>Priority Criteria</b>						
		<b>With records</b>	<b>No records</b>	<b>Optimal Habitat</b>	<b>Habitat Corridor</b>	<b>Probably represented in PA</b>	<b>High human impact</b>	<b>Extreme distribution</b>
<b>Priorities between protected areas</b>								
Promote effective conservation of the populations & habitats	(Per) PA: Aguada Blanca, RP Nor Yauyos Cochas, ACR Vilacota Maure	√		√		√	√	
	(Bol) PA: Eduardo Avaroa	√		√			√	
	(Arg) PA: Olaroz-Cauchari*, Laguna de los Pozuelos, Alto andina de la Chinchilla*, Campo de los Alisos, Laguna Blanca, San Guillermo**	√		√	**√			
	(Chi) PA: Las Vicuñas, Lauca, Surire	√		√				
Promote surveys and effective conservation	(Per) PA: PN Huascarán		√	√				√
	(Bol) PA: Apolobamba, Sajama, Tunari	√		√			√	
	(Bol) PA: Cordillera de Sama, Carrasco, Yura*, Llica*, Cerro Tapilla*, Mirikiri*		√	√				
	(Arg) PA: Los Andes		√	√				?
	(Arg) PA: Cumbres Calchaquies*	√						
	(Chi) PA: Volcan Isluga, Los Flamencos, Alto Loa		√	√			√	
<b>Regional Priorities</b>								
Promote surveys and effective conservation of optimal habitats	(Per) Extreme North, above 10° S 77° W		√				√	√
	(Per) Between 70°-71° W and 14°-15° S		√				√	
	(Bol) Between 67°W and 17° to 20° S		√				?	
	(Bol) Andes Centrales (Provincia Pacajes)	√		√	√			
	(Bol & Chi) High Andes within 19° and 22°N		√	√	√	√		
	(Arg) Central Andes	(3)		Patch		√		
	(Arg) Northern zone in the Patagonian Steppe	√				√	√	√
	(Arg & Chi) Arid Diagonal in the Andes between 27° and 32° S	(1)			√			
PA=Protected Area, * Not implemented PAs, Numbers indicate the amount of Andean cat records								

## 1.1. Distribution and Genetics

### Goal

Complete the distribution map, identify the genetic structure, and establish the Andean cat conservation's status within its expected range, to guide population conservation actions against habitat loss and degradation.

### Objective 1.1.1

To complete information gaps due to lack of surveys in areas with available habitat, in the next 5 years.

#### Activities:

- a. Survey protected areas without records of Andean cat (see Table 3).
- b. Survey areas with suitable habitat for the Andean cat but with no confirmed records (see Table 3).
- c. Survey patches of habitat in Ecuador, especially where the preys (*Chinchillidae* species) of the Andean cat are present.

#### Participants:

Argentina: A. Novaro, S. Walker, R. Palacios, S. Di Martino, San Juan and part of La Rioja, south Mendoza, north-central Neuquén and Somuncurá plateau (provincial and private protected areas) 2015; GECM, West of Jujuy, southwest of Salta, northwest Catamarca, west of Tucumán 2015.

Bolivia: J.C. Huaranca, L.F. Beltrán, eastern Cordillera between the departments of La Paz and Cochabamba 2015.

Peru: D. Farfán – ACEMAA, mountains of the department of Ica, La Libertad and Cusco, A. Cruz and A. Madrid, in the north of Puno (surrounding area to Apolobamba in Bolivia). U. Fajardo, Ancash, Lima and Huánuco.

Chile: A. Iriarte, south of the Tropic of Capricorn (2012) and between latitudes 23° and 33°, connecting the north and south known populations, Lullailaco National Park, Nevado Tres Cruces National Park 2015.

Tripartite area Argentina-Bolivia-Chile: Darwin Project: M. Bennett, J. Marino, P. Perovic, C. Sillero, L. Villalba

Ecuador: to determine

### Objective 1.1.2

To determine to which genetic management units correspond unstudied Andean cat populations.

#### Activities:

- a. Collect faecal samples, skins or other potential DNA sources from the regions lacking records of Andean cats, especially in potentially isolated areas.
- b. Conduct genetic analysis of proposed management units (Cuzco and Lima, Ancash, both in Peru) with larger samples than those studied to date.
- c. Conduct genetic analysis with a larger number of microsatellites and more samples for each studied location, to determine whether there are sub-populations within the units already identified.

#### Participants:

Argentina: R. Palacios, southern 2013.

Peru: D. Cossios. D. Farfán – ACEMAA, Ica, La Libertad and Cusco. A. Cruz and A. Madrid, north of Puno (surrounding area to Apolobamba, Bolivia). U. Fajardo, Ancash, Lima and Huánuco.

### **Objective 1.1.3**

**To determine the distribution of the Andean cat's main prey**

#### **Activities:**

- a. Complete the distribution map of prey species, particularly *Lagidium sp.*, in areas with different ESUs of the Andean cat and those of regional relevance.

#### **Participants:**

Argentina: R. Palacios, southern 2013.

Tripartite area Argentina-Bolivia-Chile: Darwin Project: M. Bennett, J. Marino, P. Perovic, C. Sillero, L. Villalba 2012.

AGA Distribution and Genetics Group 2012.

### **Objective 1.1.4**

**To develop a genetic method for individual identification through faecal samples or skins that can be used to study Andean cat populations.**

**Activities and Participants:** to be determined.

## **1.2. Ecology**

### **Goal**

Increase knowledge of biology, ecology and conservation threats of the Andean cat.

### **Objective 1.2.1**

**To conduct an assessment of causes and impact of habitat loss and degradation.**

#### **Activities:**

- a. Establish the habitat requirements of the Andean cat and its segregation with the pampas cat.
- b. Quantify the distribution, extent, and magnitude of past and future extractive activities (eg. mining, petroleum) for the entire distribution range.
- c. Conduct research on livestock management (including preferred livestock species) in relation to carrying capacity of different regions and analyse how Andean cat habitats and prey are impacted by different livestock husbandry practices.
- d. Determine priority areas for negative impact research and mitigation throughout the distribution range of the Andean cat.
- e. Assess the impact on Andean cat populations of indirect threat related to degradation and habitat loss.
- f. Develop, evaluate and implement potential mitigation measures for damage caused by extractive industries and livestock husbandry.

#### **Participants:**

Argentina: A. Novaro, S. Walker, R. Palacios, southern. GECM, north 2015.

Bolivia: J. C. Huaranca, L. Villalba and L.F. Beltrán

Peru: A. Cruz, A. Madrid, Tacna, Moquegua and Arequipa. D. Farfán – ACEMAA, southeast zone.

Tripartite area Argentina-Bolivia-Chile: Darwin Project: M. Bennett, J. Marino, P. Perovic, C. Sillero, L. Villalba 2012.

### **Objective 1.2.2**

**To generate knowledge on the impact of climate change on Andean cat habitat, particularly on desertification.**

#### **Activities:**

- a. Identify the causes of desertification in areas where Andean cat presence has been confirmed and assess the impact of this process on the Andean cat populations.
- b. Identify potential mitigation measures specific to the problem of desertification.

#### **Participants:**

Argentina: A. Novaro, S. Walker, R. Palacios, southern. GECM, north 2014.

Bolivia: J. C. Huaranca, central and east zones of Bolivia.

Peru: A. Cruz, A. Madrid, south zone.

Tripartite area Argentina-Bolivia-Chile: Darwin Project: M. Bennett, J. Marino, P. Perovic, C. Sillero, L. Villalba 2012.

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### **Objective 1.2.3**

**To measure the degree of conflict between native carnivores and human activities in priority areas for Andean cat conservation.**

#### **Activities:**

- a. Conduct interviews with villagers to determine the degree of conflict with native carnivores, collect data on livestock predation, and identify the attitude of rural people towards native carnivores.
- b. Determine levels of predation and main predators through native carnivore diet studies.

#### **Participants:**

Argentina: A. Novaro, S. Walker, R. Palacios, S. Cañadell, southern. GECM, north 2013.

Bolivia, J. C. Huaranca, A. Torres, Pacajes Province, La Paz.

Chile: A. Iriarte, N. Lagos, R. Villalobos, regions of Antofagasta and Atacama.

Peru: A. Madrid and A. Cruz, Tacna, Moquegua and Arequipa. D. Farfán – ACEMAA, southeast area.

### **Objective 1.2.4**

**To measure the negative impact of domestic dogs on Andean cat populations.**

#### **Activities:**

- Quantify the incidence of mortality events of Andean cat due to dogs in areas already studied and new areas.

- Develop a study on the incidence of diseases in domestic carnivores, wild carnivores and other possible carriers, to generate a baseline for epidemiological monitoring.

**Participants:**

Argentina: A. Novaro, S. Walker, R. Palacios. GECM, north 2013.

Bolivia: L. F. Beltrán, J. C. Huaranca 2015.

Peru: D. Farfán - ACEMAA, SENASA, southeast area

**Objective 1.2.5**

**To generate baseline information to assess trends in Andean cat populations.**

**Activities:**

- a. Determine population densities in each genetically identified Management Unit.
- b. Identify and test population trends monitoring protocol for these Management Units
- c. Implement a medium-term monitoring (5-8 years) of population trends in at least one area of each country.

**Participants:**

Argentina: GECM, northern 2014.

Bolivia: J. C. Huaranca, L. Villalba

Chile: A. Iriarte, N. Lagos, R. Villalobos.

Peru: D. Farfán - ACEMAA, southeast zone.

AGA Members, Research Area

**Objective 1.2.6**

**To develop a global proposal of guidelines for monitoring Andean carnivores**

**Activities and Participants:** Active members of AGA.

## 2. Education Area

### Goal

To continue with environmental education activities and community participation, focusing on creating a favourable environment for the development of conservation actions, promoting critical thinking and generating participative opportunities linked to the biodiversity of mountain ecosystems and their main conservation problems, with the goal of increasing knowledge of the Andean cat, preserving its environment in order to help address the threats 1, 2, 3 and 4.

### Objective 2.1

**To consolidate a common strategy for environmental education and diffusion based on an evaluation of the educational experiences developed by AGA.**

#### Activities:

- a. Exchange recent experiences among AGA members, in order to:
  - i. Evaluate progress and difficulties in the strategies implemented by different teams and countries and the results obtained
  - ii. Analyse the on-going activities related to Environmental Education to generate tools for effective evaluation
  - iii. Evaluate the methods used so far to determine if educational activities encourage the active participation of learners and meaningful learning
- b. Select and implement the most successful and practical methodologies used so far.
- c. Evaluate the implementation of new global strategies for education and participation

#### Participants:

All members of AGA - Education Area 2012.

### Objective 2.2

**To consolidate the Andean cat image in communities and encourage positive attitudes towards high Andean biodiversity.**

#### Activities:

- a. Continue environmental education activities and diffusion inside and outside schools in communities related to Andean habitat.
- b. Quantify the number of people reached through environmental education activities.

#### Participants:

Argentina: GECM, north 2012.

Bolivia: A. Torrez, J.C. Huaranca, 2013.

Peru: A. Madrid, A. Cruz, Tacna and Moquegua. D. Farfán – ACEMAA, south east. U. Fajardo, Ancash, Lima and Huánuco.

### **Objective 2.3**

To make possible active participation of local inhabitants in concrete actions that aims to solve environmental problems, particularly those related to Andean cat, its habitat and its conservation

#### **Activities:**

- a. Identify priority areas for community participation activities, considering the places where such activities are already underway and those identified as priority sites for Andean cat conservation in the new distribution model.
- b. Explore strategies/opportunities to increase the participation of local contributors in Andean cat conservation, favouring encounters in workshops or community meetings.
- c. Quantify the impact of community involvement activities, changes in attitude and perception towards the species through surveys, workshops and community meetings.
- d. Continue training local agents (teachers, local people) and park rangers in education, outreach and conservation activities, so that they can lead these community participation initiatives in the future.

#### **Participants:**

Argentina: R. Palacios, southern 2012. EduGat program, GECM, north 2013.

Bolivia: A. Torrez, L. Villalba, F. Beltran 2013

Peru: A. Madrid, A. Cruz, Tacna, Moquegua and Arequipa. D. Farfán – ACEMAA, southeast area. U. Fajardo, Ancash, Lima and Huánuco.

### **Objective 2.4**

To promote the expansion of the "Education Agents" network from the high Andes, for carrying out activities in the 4 countries, as well as the exchange of experiences and the coordination in each country.

#### **Activities:**

- a. Assess the progress, difficulties, and results obtained with the creation of "Education Agents" through reports or with a group meeting, and maintain contact with involved people.
- b. Implement changes, if necessary, in the action of Education Agents to consolidate their training, by designing new educational modules that contain substantial and compelling information and favour a more active participation in conservation and local development.

#### **Participants:**

To be determined. It is suggested 2012 - 2013.

### **Objective 2.5**

To develop a training project for the Protected Areas staff in the four range countries in a coordinated and standardized way

**Activities and Participants:** To be determined.

### **Objective 2.6**

To develop in each country a training and research module in camera trapping and other field survey techniques appropriate to Andean cat study, directed towards local university students in related fields.

**Activities and Participants:** To be determined

## 3. Conservation Area

### Goal

Promote environmental management actions aimed to protect critical populations of Andean cats, their genetic variability, and their role in the ecological processes within their natural habitat.

### Objective 3.1

**To identify, implement and measure the effectiveness of diverse mitigation actions in the human-predator conflict.**

#### Activities:

- a. Identify, implement, and monitor the effectiveness of pilot programs for reducing conflict between livestock, Andean cats and other sympatric carnivores.
- b. Assess economic losses due to predation in relation to the employed mitigation measures, their effects, and costs.
- c. Train local folk to objectively identify the predator that caused the damage, along with the correct application of the strategies to reduce predation.
- d. Analyse the results obtained with different conflict mitigation activities in a standardized way, allowing comparison between countries.

#### Participants:

Argentina: A. Novaro, S. Walker, R. Palacios, southern. GECM, north 2014.

Bolivia: J. C. Huaranca, A. Torres, F. Beltrán.

Chile: A. Iriarte, N. Lagos, R. Villalobos, regions of Antofagasta, Atacama and Valparaíso.

### Objective 3.2

**To strengthen existing protected areas with Andean cat populations and support their management.**

#### Activities:

- a. Obtain cooperative agreements between AGA members and the agencies managing protected areas.
- b. Promote or support conservation and cooperation initiatives between protected areas in triple frontiers (priority areas, see Table 3).
- c. Support and develop training programs for protected areas' management staff in identifying and monitoring carnivores, education, diffusion, and others activities necessary for proper management.
- d. Promote interaction between local communities and management agencies of protected areas in order to establish mutually beneficial measures.
- e. Establish partnerships with other institutions that are related to management of the involved protected areas.

#### Participants:

Argentina: A. Novaro, R. Palacios, S. Cañadell, southern 2013. GECM, north 2013.

Bolivia: J.C. Huaranca, L. Villalba, F. Beltrán.

Chile: A. Iriarte, Antofagasta and Atacama regions.

Peru: A. Madrid, A. Cruz, southern. U. Fajardo, north central.

Tripartite area Argentina-Bolivia-Chile: Darwin Project: M. Bennett, J. Marino, P. Perovic, C. Sillero, L. Villalba, 2010-2012; AGA and GCFA 2013.

### **Objective 3.3**

**To promote conservation activities and creation of new protected areas in regions of strategic importance for Andean cat conservation.**

#### **Activities:**

- a. Identify unprotected wild areas or private lands with strategically important Andean cat populations.
- b. Promote or support initiatives for the creation of new protected areas and/or corridors between existing areas.
- c. Advise technical agencies on the evaluation of potential sites with Andean cats in proposals for conservation initiatives, including the creation of new protected areas.
- d. Establish cooperative agreements between AGA members and local authorities to support the management of the prioritized protected areas, whether these are public, communal or private.

#### **Participants:**

Argentina: A. Novaro. R Palacios, southern 2015. GECM, north 2013.

Bolivia: L Villalba, J.C. Huaranca. 2015

Chile: A. Iriarte, regions of Antofagasta and Atacama

Peru: A. Madrid, A. Cruz, Tacna, Moquegua and Arequipa. D. Farfán-ACEMAA, southeast area

Tripartite area: Argentina-Bolivia-Chile: Darwin Project: M. Bennett, J. Marino, P. Perovic, C. Sillero, L. Villalba, 2012; AGA and GCFA.

### **Objective 3.4**

**Identify and promote sustainable development strategies for local communities which coexist with the Andean cat.**

#### **Activities:**

- a. Define the participation of AGA in conservation projects that support the sustainable development of local communities while yielding the conservation of high the Andean biodiversity.
- b. Promote sustainable tourism in pre-selected areas inhabited by Andean cat, aiming to reduce negative impacts on the environment, favouring community tourism initiatives, and identifying possible coordination mechanisms among tourism agencies and local communities for mutual benefit.
- c. Promote the production and marketing of handcrafts using fair trade practices in local communities, providing marketing training and use of commercial channels for selling the products. As a result, it is expected that communities will be willing to sign and fulfil agreements of conservation.
- d. Promote the breeding of domestic South American camelids of high wool quality, as an alternative to conventional livestock farming.
- e. Promote and support the development of management plans for sustainable use of rangelands and water resources, in order to reduce livestock density and overgrazing.

**Participants:**

Argentina: A. Novaro, S. Walker, C. Marull, southern 2012. GECM, north 2013.

Peru: A. Madrid, A. Cruz, Tacna, Moquegua and Arequipa. D. Farfán – ACEMAA, southeast area.

Tripartite area: Argentina-Bolivia-Chile: Single Road-Darwin Project: M. Bennett, J. Marino, P. Perovic, C. Sillero, L. Villalba.

**Objective 3.5**

**To re-evaluate the identified threats and the conservation status of the Andean cat every two years based on new knowledge generated by the continuous work of AGA members.**

**Activities and Participants:** AGA. It is suggested for 2012, biannually

**Objective 3.6**

**To expand mitigation campaign of off-road tourism to other identified areas that are suffering from this problem.**

**Activities and Participants:** To be determined.

## 4. Management Area

The Andean Cat Alliance is a non-profit organization whose members work mainly *ad honorem*, and recognizes the need to attract and retain donors to ensure the maintenance of the Alliance. Since its creation, AGA has had the sponsorship from Wildlife Conservation Network (WCN), which has laid the foundation for the Alliance. It has served as leverage so that AGA members obtain substantial funds to continue on with their projects. Consequently, the need to expand the donors' base by actively seeking grants for specific projects or multinational initiatives remains while maintaining the link with WCN. Hoping to achieve this ideal, AGA members prepare a newsletter regularly that is sent free of charge to donors, current, past, and potential as well as all AGA members. In addition, the website is actively maintained and relevant information is transmitted to the blog. The assessment of maintenance and dissemination costs in order to facilitate the elaboration of proposals for global and local grants is a part of the Management Area

### **Goal**

Promote the long-term operation of the Andean Cat Alliance, by obtaining maintenance funds, and by facilitating and encouraging transnational and interdisciplinary work and the application of this Strategic Plan.

### **Objective 4.1**

**To assist in the functioning of AGA common activities through specific funding and dissemination of activities.**

#### **Activities:**

- a. Identify potential donors and create a database of potential institutions and funds to submit proposals
- b. Develop funding proposals that favour the operation of AGA.
- c. Identify potential mechanisms and alternative sources of funds that allow the operation of AGA.
- d. Maintain and manage the website and blog of the Alliance
- e. Maintain an updated list of current donors and update the addresses that receives the AGA e-bulletin
- f. Maintain the circulation of the e-bulletin of AGA, whose main objective would be to raise new funds.

**Participants:** General coordination and Area Coordinators

### **Objective 4.2**

**To ensure the development, implementation, monitoring, and evaluation of this Strategic Plan.**

#### **Activities:**

- a. Encourage the inclusion of conservation actions outlined in this Strategic Plan, within conservation and management policies in priority areas for the Andean cat.
- b. Suggest and encourage interventions that are relevant to each thematic area, based on the hierarchical order presented in the Strategic Plan.
- c. Create mechanisms to encourage maximum social participation in the elaboration and development of AGA conservation projects.
- d. Encourage communication between active AGA members, in order to develop projects and proposals that fit the goals and objectives of the Strategic Plan.

- e. Generate the appropriate circumstances for evaluation of this Plan Strategic, either in person or by electronic means to analyse challenges, goal achievements, those in course and those pending.

**Participants:**

All active members of AGA who attend the meetings.

The evaluation of the Strategic Plan is scheduled for 2016 and will be carried out by the AGA Council.

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## ANNEX 1

### Overview of AGA quantitative achievements, 2004-2009

<b>PAGA OBJECTIVES</b>	<b>Argentina</b>	<b>Bolivia</b>	<b>Chile</b>	<b>Peru</b>	<b>Multinational Initiatives</b>	<b>Overall</b>
<p><b><u>PAGA OBJECTIVE 1</u></b> To determine current distribution and relative abundance of Andean cat, and threats that affect the species and natural ecosystems</p>	<p><b>Distribution</b> Initial distribution map 74 new records 6 new localities</p> <p>75 Abundance estimations 95 transects</p> <p>Threat assessment 1 Threat workshop</p>	<p><b>Distribution</b> 15 verified records 15 new localities</p> <p>4 Abundance estimations 225 transects</p> <p>Threat assessment 163 Interviews</p>	<p><b>Distribution</b> 41 new records 15 new localities</p> <p>Threat assessment Interviews Workshops with local communities and park rangers.</p>	<p><b>Distribution</b> 225 new records 64 new localities</p> <p>Threat assessment Workshops with local communities and park rangers. Threat assessment map</p>	<p><b>Distribution</b> Andean Cat distribution model for South America and presence in protected areas</p> <p>Methodologies: Methodology tri national workshop Sniffing dogs</p> <p>Threat assessment Off road tourism impact</p>	<p><b>Distribution</b> Initial distribution map 240 new records 95 new localities Distribution model map for south America.</p> <p>Abundance estimations: 79 estimations, 320 transects, current research.</p> <p>Unification of methodologies with workshops and handbooks</p> <p>2 Threat assessment workshops, more than 160 interviews, threat assessment map for one area. Current project with off road tourism assessment</p>
<p><b><u>PAGA OBJECTIVE 2</u></b> To carry out scientific research to produce basic information on Andean cat biology and ecology</p>	<p><b>Population Genetics</b> Contribute to D. Cossios research</p> <p><b>Diet</b> Publication of Andean cat, pampas cat, and culpeo fox diet in the northern provinces</p> <p><b>Habitat Use</b> Analysis of photographic records and transects in progress</p>	<p><b>Population Genetics</b> Contribute to D. Cossios research</p> <p><b>Diet</b> Study in progress in 5 areas.</p> <p><b>Habitat Use</b> Radio-telemetry of 2 cats (one pampas and one Andean)</p>	<p><b>Population genetics</b> Molecular genetics in regions I, II and III.</p> <p><b>Diet</b> Publication of diet for Regions I, II and III.</p> <p><b>Habitat Use</b> Ecological niche modelling Environmental variable analysis.</p>	<p><b>Population genetics</b> D. Cossios is coordinating an international study.</p> <p><b>Diet</b> Study in progress</p> <p><b>Habitat use</b> Analysis of use with track recognition</p>	<p><b>Population Genetics</b> 95% achieved with data from 3 countries.</p> <p><b>Habitat Use</b> 1438 pictures of Andean mammals, for habitat use and activity pattern, 755 habitat sampling points</p>	<p><b>Population genetics</b> Multinational project almost complete. Local project in Chile.</p> <p><b>Diet</b> 2 Diet studies finished, 3 in progress</p> <p><b>Habitat Use</b> Radio telemetry of 2 cats Multinational photographic record analysis, with habitat sampling points. Environmental variables analysis</p>

<b>PAGA OBJECTIVES</b>	<b>Argentina</b>	<b>Bolivia</b>	<b>Chile</b>	<b>Peru</b>	<b>Multinational Initiatives</b>	<b>Overall</b>
<p><b><u>PAGA OBJECTIVE 3</u></b> To mitigate impacts of human activities on the Andean cat and natural ecosystems through community participation and education</p>	<p><b>Public awareness</b> Radio, newspapers, TV programs, national and international presentations, etc.</p> <p><b>Educational activities</b> 11 localities</p> <p>Workshops with: 750 school students, 21 Teachers, 7 Education officers. 14 Adult workshops Training of 7 Fauna Monitors</p> <p>19 students</p> <p>Agreements with local agencies, and communities</p>	<p><b>Public awareness</b> Newspapers, Talks at local schools, University, National Scientific Congress</p> <p><b>Educational activities</b> 14 areas</p> <p>Workshops with: 473 school students 45 teachers 54 park guards 64 rural settlers 5 Public talks</p> <p>5 students</p> <p>Agreements with local agencies, NGOs</p>	<p><b>Public awareness</b> 9 new protected areas visited</p> <p><b>Educational activities</b> 114 sites visited</p> <p>Workshops with: 246 school students</p> <p>5 Park guards involved in projects. 6 public talks with 300 people</p> <p>16 students</p> <p>Agreement with governmental agencies.</p>	<p><b>Public awareness</b></p> <p><b>Educational activities</b></p> <p>Workshops with: 524 school students</p> <p>60 adults and other 3 workshops</p>	<p><b>Public awareness</b> Radio, newspapers, TV programs, national and international presentations, etc.</p> <p><b>Educational activities</b> Public talks about responsible tourism. Interviews to tourism agencies.</p> <p>Map of possible unique roads to mitigate off road tourism impact.</p>	<p><b>Public awareness</b> Radio, newspapers, TV programs, National and International presentations, etc.</p> <p><b>Educational activities</b> More than 139 sites visited.</p> <p>Workshops with: 1993 school students 66 rural teachers 7 education officers 59 park guards 424 adults, and other 17 workshops with more attendance Formation of 7 fauna monitors</p> <p>40 science students as volunteers were formed. Public talk about responsible tourism, possible map of unique roads. Agreements with local agencies, communities, NGOs.</p>
<p><b><u>PAGA OBJECTIVE 4</u></b> To strengthen the management of protected areas where the Andean cat is present, promote the establishment of new areas or corridors, and encourage the development of conservation initiatives in the region.</p>	<p>Capacity building for 34 park rangers in 4 workshops (Underway)</p> <p>200 park rangers and Official Guides students attended training sessions about recognition and monitoring of Andean Cat</p>	<p>Capacity Building starting. 40 park rangers will be trained.</p> <p>Development of a Research Station in the High Andean zone. Promising status and site.</p>	<p>Coordination meetings, public awareness workshops with governmental agencies</p> <p>Support in the creation of a Reserve and proposal of another possible area.</p>	<p>Workshops with local communities and governmental agencies to develop conservation strategies</p> <p>Creation of a new protected area in Tacna. Lobby for the creation of another protected area in Cusco</p>	<p>2 Workshops around the tri-country point.</p> <p>Direct work with local agencies for implementing the selected roads.</p> <p>Support in the change of an Argentinean Protected Area status from State Park to National Park</p>	<p>Capacity building for more than 80 park rangers. 200 park rangers and guide students attended training sessions. Several workshops with governmental agencies to develop conservation strategies. Direct work with government for implementing the unique roads map in Chile. Development of a Research Station in Bolivia Creation of one protected areas, lobbying for the creation or reinforcement of other 2</p>

<b>PAGA OBJECTIVES</b>	<b>Argentina</b>	<b>Bolivia</b>	<b>Chile</b>	<b>Peru</b>	<b>Multinational Initiatives</b>	<b>Overall</b>
<p><b><u>PAGA OBJECTIVE 5</u></b> To promote the implementation and adequacy of conservation legislation and policies regarding the Andean cat and natural ecosystems</p>	<p>Signing of local agreements between National and Local protected area authorities between themselves and with research groups for collaboration and commitment.</p> <p>Participation in proposal for a law to define the Andean cat as a National Monument.</p>	<p>Agreements with particular Protected areas for collaboration in the implementation of AGA Projects. Participation in the Bolivian mammals' categorization. Andean cat is listed as C</p> <p>Participation in tourist and protected areas fairs.</p>	<p>Assistance to the Chilean government in assessing the conservation status of wild felids. Andean cat is under extinction risk.</p> <p>Public talk for governmental agencies</p>	<p>Participation in the Peruvian mammals' categorization. Andean Cat is Endangered.</p>	<p>Trans-national workshop for Andean cat conservation in protected areas. Agreement for collaboration among protected areas and GFCAs for the conservation of the Andean cat and the high Andean Ecosystem within the tri-country zone (Arg-Bol-Chile). Also agreements between National and Local protected areas authorities for collaboration and commitment.</p> <p>Direct work with local agencies for implementation of the unique roads in Chile</p>	<p>Signing of several agreements with different relevant agencies. This includes NGOs, National Park services, State park services, private reserves. The agreements were for collaboration and commitment. These agreements are particularly relevant because they are putting the Andean cat into local and national conservation planning.</p> <p>Participation in local governments' re-evaluation of the Andean Cat status. Two achievements, in Chile is now Under Extinction Risk, and in Peru is Endangered.</p>
<p><b><u>PAGA OBJECTIVE 6</u></b> To continuously evaluate actions developed during the implementation of this plan</p>	<p>Participation in AGA meetings</p> <p>Evaluation of educational activities, evaluation of achievements</p>	<p>Participation in AGA meetings</p> <p>National coordination to present complementary projects in research and Education and capacity building</p>	<p>Participation in AGA meetings</p>	<p>Participation in AGA meetings</p>	<p>Tri national workshop with researchers</p>	<p>Participation in meetings, collaboration with file construction and other activities. Tri national workshop with researchers.</p> <p>Evaluation of achievements and educational activities.</p> <p>Intra-national coordination (Bolivia) to present unique projects in some areas.</p>

<b>PAGA OBJECTIVES</b>	<b>Argentina</b>	<b>Bolivia</b>	<b>Chile</b>	<b>Peru</b>	<b>Multinational Initiatives</b>	<b>Overall</b>
<b>PUBLICATIONS &amp; OTHER OUT-PUTS</b>	<p>Popular: 8 Scientific 8 (+3) Congress presentations 11 Graduate thesis: 4 Undergrad. thesis: 1</p> <p>Official reports</p> <p>Handbook for identification of Andean Carnivores,</p> <p>Educational Handbook Brochures and posters Children's story book</p>	<p>Popular: 6 Scientific: 2 (+1) Congress presentations: 12 Graduate thesis Undergrad thesis: 5</p> <p>Official reports</p> <p>Illustrated notebooks on Andean and Pampas cat</p> <p>Short film on Andean cat</p> <p>Compilation of stories of Andean mammals and about the ceremony with Andean and pampas cat skins Posters</p>	<p>Popular: 2 Scientific: 9 Congress presentations: 9 Graduate thesis: 2 Undergrad thesis: 4</p> <p>Official reports</p> <p>Illustrated educational notebook</p> <p>Presence in the Biodiversitas website</p> <p>Posters, brochures, 3 cartoons</p>	<p>Popular: Scientific: 1 Congress presentations: 5 Graduate thesis: Undergrad thesis: 2</p> <p>Official reports</p> <p>Andean Cat local distribution map</p> <p>Brochure about traditional uses and cultural presence.</p> <p>Educational notebook. Teachers handbook 1 Giant poster</p>	<p>Popular: Scientific: 4 (+4) Congress presentations: 15 Graduate thesis: 1 Undergrad thesis:</p> <p>Official reports</p> <p>PAGA Brochures and posters, games. 5 Project bulletins Updated distribution map</p> <p>Handbook for Andean Carnivores Monitoring Andean Cat Alliance Website</p> <p>Brochure for responsible tourism.</p> <p>Elaboration of map with proposed zones for road development using landscape variables.</p> <p>SWOT Analysis for AGA Strategic Plan</p>	<p>Popular: 16 Scientific: 32 Congress presentations: 52 Graduate thesis: 7 Undergrad. Thesis: 12 Hundreds of official reports</p> <p>PAGA AGA website Handbook for identification of Andean carnivores. Handbook for surveying high Andean Carnivores Updated distribution map Publicity for responsible tourism. SWOT Analysis Strategic plan construction. Brochures and posters.</p> <p>Educational Handbook. Educational notebook. Teachers handbook. Children's story book 2 Illustrated notebooks Short film on Andean Cat Compilation of stories. 5 project bulletins Several brochures, posters, games and paintings.</p>

# ANDEAN CAT ALLIANCE



**Argentina – Bolivia – Chile – Peru**

**<http://www.gatoandino.org>**