

**ACTION PROGRAM FOR THE CONSERVATION OF THE SPECIES
Jaguar (*Panthera onca*)**

**United States of México
Federal Government
SEMARNAT**

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Presentation

The present document is called the Action Program for the Conservation of the Species: Jaguar (*Panthera onca*), which revisits the main guidelines established in the first document in a practical fashion, which is the result of an effort among experts in the field and respective Federal authorities. By consensus, the former document was named Project for the Conservation and Management of the Jaguar in Mexico, from the Series: Recovery Projects for Priority Species (PREP) Number 14, published by the Secretary of Environment and Natural Resources (SEMARNAT) in March 2006.

This program also aims to resume earlier efforts by establishing a schedule for actions, strategies, and short, medium and long term goals, using the respective indicators in order to work systematically, through the assignment of actors and budgets to provide continuity and certainty to the actions proposed for the recovery of this iconic species and its habitat.

Considering the enormous distribution and variety of habitat for this species, through common factors such as priority areas for conservation, threats they face and active working groups, it is sought to coordinate activities with Action Programs of other species, which perform ecological roles equally important and share habitats with the jaguar in order to synergize actions, actors and resources to be implemented, and thus optimize them.

It is worth clarifying that this Action Program is developed in the framework of the Risk Species Conservation Program, which is the governing document of the Directorate of Priority Species for Conservation within the General Directorate of Regional Operation of CONANP, that is part of the strategic line of "Restoration" which along with the programs of "Restoration of Ecosystems" and "Ecological Connectivity" constitute the basic tools to meet one of the strategic objectives of the National Program of Protected Areas from 2007 to 2012.

I. Introduction

Commonly known throughout the various distribution sites in the continent and our country as jaguar, onza, yaguar, yaguarete, tiger, royal tiger, panther, malam, barum, onca, etc. This is the third largest cat after the tiger and lion, and the largest in the Americas. In Mexico records show males with an average weight of 56 kg, and females at 42 kg average (Aranda, 1991), and although jaguar body measurements change with respect to geographic variation, with the largest specimens found in South America (Oliveira, 1994), recently Eizirik et al. (2001) concluded after an analysis of the genetic structure of the jaguar populations across the continent that there exists only a single species.

The jaguar has skin color that ranges from pale yellow to reddish brown and changes to white on the cheeks, chest and insides of the limbs. Throughout the body it has black spots, which change to rosettes on the sides; within these there may be one or more small spots (Ceballos and Oliva, 2005). The jaguar breeding season varies geographically. Offspring have been reported in South America in June, August, November and December (Seymour, 1989), but in areas with strong seasonality, the young are often born in the season when food is abundant. In various parts of southern

and southeastern Mexico, farmers indicate that the mating season of the "Jaguar" occurs during the months of December and January (Aranda, 1990). There is an average gestation period of 100 days and the litter can consist of one to four cubs. However, usually only one or two cubs are developed (Ceballos and Oliva, 2005).

Jaguars are the biggest predators in the Neotropics, and therefore play a major ecological role in affecting the population densities of its prey and are one of the limiting factors for these (Medellín et al., 2002; Tewes and Schmidly, 1987). The jaguar is an important element in the ecosystem because it is a keystone, flagship and umbrella species (Miller et al., 1998, 1999). This species is considered the cornerstone for conservation planning at regional and country levels because it has a wide distribution, it requires extensive areas for survival and it inhabits a huge variety of ecosystems (Ceballos et al., 2002, Medellín et al., 2002).

Precisely because of its requirements for space and fragmentation, coupled with hunting and stigmas that still prevail, the populations of this species are still declining. Although hunting has been permanently banned since 1987 (SEDUE, 1987), this action has not been sufficient to ensure the preservation of the jaguar. Even after implementing activities such as the creation of natural protected areas and other conservation tools, which have contributed greatly in the conservation of habitat areas for this species, it is still considered a species at risk and a priority for conservation.

That is why the National Commission of Natural Protected Areas, through the Directorate of Priority Species Conservation, has promoted and supported the creation of a guiding document that is exclusively focused on the conservation and recovery of this species, which is so emblematic and has such high ecological importance. This document is not only intended as a brief with ideas, opinions and good intentions, but must also reflect the current needs and problems facing the conservation of the jaguar.

The Action Program for the Conservation of the Jaguar (PACE Jaguar) is a comprehensive plan that incorporates six complementary strategic lines that are composed of actions and activities planned in the short and medium term.

II. Background

Although recognized as an ecologically key species with great cultural importance, jaguar populations unfortunately have declined throughout their area of distribution. In the case of Mexico this has happened especially in the last 40 years as a result of habitat loss, growth of farmland, livestock, and illegal hunting (Nowell and Jackson, 1996).

To address the problems affecting this species the National Technical Advisory Subcommittee for the Conservation and Sustainable Management of the Jaguar was formally established in 2000 as the technical advisory body for the Secretary of Environment and Natural Resources (SEMARNAT). Composed of representatives of the academic society and nongovernmental organizations (NGOs), its primary mission was to propose a national strategy for the conservation and sustainable management of jaguars through the formulation of a Priority Species Recovery Program that would establish the foundations in order to promote the joint participation of federal, state and municipal government agencies, as well as the society as a whole, such that conservation of the jaguar in Mexico can be achieved through an assessment of the

status of the species, control of major threats to their populations and habitat, and the implementation of priority conservation actions.

Following the important work of organizing information generated by specialists of the Technical Subcommittee members in collaboration with the National Commission on Protected Areas (CONANP), the information integration phase for an Action Plan for Jaguar Conservation in Mexico was initiated. In the short and medium term, the plan had the task of integrating, coordinating and strengthening the regional efforts that took place in the country involving civil society organizations, academic organizations, research agencies, government institutions and all public, private and social sectors that would be interested in the conservation of this species.

Thus, in October 2004 two working meetings were held with experts on the subject belonging to different institutions and organizations, one of which was supported and attended by the Secretary of Environment and Natural Resources, who agreed to support the concept of "The Year of the Jaguar in Mexico" in 2005. At the second meeting the short and medium term actions were identified for the Action Plan for Jaguar Conservation in Mexico. This meeting, which was coordinated by the CONANP, presented the progress of the document "Recovery Projects for Priority Species" (PREP) by the National Technical Advisory Subcommittee for the Conservation and Sustainable Management of the Jaguar, as well as the presentation of eleven research projects and conservation efforts carried out in the states of Sonora, Tamaulipas, Jalisco, Nayarit, Oaxaca, Chiapas, Campeche, Quintana Roo and Yucatan. Two regional priority actions to be undertaken in the short term were mentioned. Targets and indicators for evaluating actions were also presented, as well as the expected results for 2005 and 2006, and the responsible actors by priority. A schedule was made for the action plan 2005-2006 with estimated costs. All documentation was copied and delivered to CONANP.

For the follow-up to this first approach, in January 2005 the CONANP again convened with the leaders of the jaguar conservation projects that were working in the country in order to consolidate the Action Plan. At the same time CONANP looked to coordinate the various central and decentralized bodies of the Secretariat to carry out the necessary collaboration and coordination of institutional efforts.

In February of that year CONANP and PROFEPA agreed to promote a program for Social Participation for the Conservation of the Jaguar in Mexico and later in August formalized through the signing of an agreement with CONABIO for \$1.2 million (pesos) to equip Community Monitoring Committees in 14 states of the country. Later in March, the President publicly declared 2005 the "Year of the Jaguar" at the Calakmul Biosphere Reserve, Campeche, where he also declared an extension to the Biosphere Reserve of more than 150,000 hectares making it the largest protected region that is home to one of the most important jaguar populations in the country.

That year many activities were promoted for the conservation, dissemination, education and social promotion of jaguars. Distribution of promotional material, posters, flyers, brochures, postage stamps, videos, television spots, radio, etc., was also carried out as part of actions aimed at conservation of the jaguar and its habitat. One of the most relevant activities within the year of the jaguar was the development of the First Symposium of the Jaguar, conducted in the month of October in Cuernavaca, Morelos, during which approximately 50 experts recorded the outcomes of the 7 working groups

in the reports of the First Symposium: The Mexican Jaguar in the XXI Century: Current Status and Management (Chávez and Ceballos, 2006).

In 2006 the Second Symposium of the Jaguar was held in Cuernavaca, Morelos, where a Population and Habitat Viability Analysis (PHVA) workshop was conducted in which specialists participated from the six major regions within the jaguar's range. Priority and critical areas for conservation were identified in this workshop, as well as key factors for the survival of the species.

At the beginning of the Six-Year Program 2007-2012 of the National Commission of Natural Protected Areas [CONANP], the Conservation Program of Endangered Species, known as PROCER, was announced. It provides general guidelines for conservation strategies for species at risk in Mexico, and determines the implementation of the Action Programs for the Conservation of Endangered Species, known as PACE, under the Presidential Declaration of the 5 Commitments for Conservation of Biodiversity in Mexico made in March 2007. It is in the framework of PROCER that in 2007 two sessions of the Technical Advisory Subcommittee for the Conservation and Sustainable Management of the Jaguar were carried out, integrating and defining the present Program of Action for the Conservation of Species Jaguar (PACE: Jaguar).

It is noteworthy that key factors to achieve and reach the objectives were identified: prioritize coordinated, integrated and participatory work of the different stakeholders; involve rural communities, indigenous people and those interested in the topic; strengthen the work of the Regional Project leaders to consolidate and, in turn, support the development of new social work projects; trigger processes for species conservation across the country; and improve the relationship between this emblematic species with communities and priority conservation areas under the triad approach: Species, Spaces and Ethnic groups.

III. Status and Threats

Historical distribution

The historical distribution of the species was a continuous area from the southern United States of America to Argentina, while in Mexico it was distributed along the coastal plain of the Atlantic and the Pacific, in the south and southeast region of the country in the Yucatan Peninsula and in the states of Oaxaca, Tabasco and Chiapas (Seymour, 1989).



Figure 1. States with historical jaguar records. Taken from SEMARNAP-INE, 1999.

Current distribution and sightings

The probable range of the jaguar currently includes a considerable portion of the historical range, from Sonora and Tamaulipas to the Yucatan Peninsula and Chiapas. The four states where there are the most important populations are Campeche, Chiapas, Oaxaca and Quintana Roo (Flores and Gerez, 1994). There are recent records in the states of Sonora, Sinaloa, Nayarit, Jalisco, Estado de México, Guerrero, Oaxaca, Chiapas, Yucatán, Quintana Roo, Campeche, Tabasco, Querétaro and Tamaulipas (Faller et al., 2005, López-González and Brown, 2002, Monroy et al., 2005, Ortega Huerta and Medley, 1999, Rosas-Rosas and López-Soto, 2002, Valdez et al., 2002).

The jaguar resides mainly in tropical evergreen and deciduous forests, mangroves, cloud forest, thorn forest and occasionally in dry shrubland and pine and oak forest. It is found from sea level to 2,000 meters; however, most records are from localities below 1,000m (Ceballos and Oliva, 2005).



Figure 2. Distribution of resident jaguars in Mexico (from Howell and Webb, 1995; modified from SEMARNAP-INE, 1999).

Threats

In the Action Plan for the Recovery and Management of the Jaguar (Series PREP) and in the records of the First Symposium of Mexican Jaguar in the XXI Century, experts agreed that one of the most important problems that threatens the existence of the jaguar population is the human growth that leads to degradation, destruction and fragmentation of the habitat, which is aggravated by poaching and changes in land use in many areas of the country unsuitable for these activities or without any control.

In addition, one of the studied factors that is increasingly worrisome is related to the impact caused by infections and diseases that can affect wild populations, both belonging to wild species as well as those originating from domestic animals invading their territory (May, 1988.)

It is considered that one of the most important, yet often ignored factors for the loss of jaguar populations is the lack of recognition of the ecological role that this species meets in the ecosystem and hence the social benefit that can be generated through its role as a flagship and umbrella species (Miller and Rabinowitz, 2002). Unfortunately in many places it is still considered simply as a dangerous animal.

In order to develop a comprehensive strategy for the conservation of the jaguar, a proper diagnosis of its current distribution and population status is required, including key information on its biology and ecology to determine what factors contribute to its deterioration.

IV. Objectives

General objectives

Strengthen, promote and implement specific actions and conservation strategies arising from the Project for the Conservation and Management of the Jaguar in Mexico and other relevant considerations (PREP), in order to conserve and recover populations of jaguar in Mexico.

Specific objectives

- Promote the generation of biological and ecological information, and information on social perception of the species, as inputs for the decision-making process aimed at the recovery of the species and its habitat.
- Promote action and increase participation focused on strengthening an environmental culture of protection and conservation of biodiversity, with emphasis on vulnerable species.
- Promote social participation as one of the key strategies aimed at the conservation and protection of the populations of the jaguar as an umbrella species.
- Generate synergy among stakeholders across all sectors of Mexican society, and have them participate actively within the scope of their expertise to achieve recovery of the species.
- Promote the consolidation of a specialists group through ongoing consultation of technical issues as well as providing several economic resources for the conservation and recovery of the jaguar.

V. General Goals

- Complete a comprehensive and systematic status review of jaguar populations at the national and regional situation level.
- Increase the area covered under some conservation status to facilitate the distribution and the biological and ecological processes of jaguar populations with the purpose of recovering the species.
- Create an active institutional participation system framed in mainstream agendas that allow the opening of actions routes for the protection and conservation of jaguar populations.
- Manage and provide the necessary resources to carry out actions aimed at conserving the species and its habitat.

VI. Goals for 2012

- Maintain a robust group of experts who collaborate with other working groups for the conservation of species that share habitats, developing actions and strategies with an ecosystem approach, in order to achieve a greater impact to ensure the continuity of ecological and evolutionary processes.
- Develop a robust database at a national level for projects and monitoring and conservation programs conducted within the jaguar's range during the last decade.
- Incorporate 1,000,000 hectares of the species range into a conservation system (ANP (Natural Protected Areas), UMA (Wildlife Management Unit), Certified Lands for Conservation, Payment Programs for Environmental Services (PSA), etc.) by promoting conservation systems and/or agreements with Environmental Sector Institutions at the Federal, State and Municipal government level, as well as with private citizens.
- Comply with 80% of the activities proposed in this document (PACE: Jaguar) through management, entailment, evaluation and timely monitoring in adherence to the Conservation Program of Endangered Species (PROCER), considering each and every one of the proposed Conservation Subprograms.

VII. Conservation strategies

(Components)

1. PROTECTION

1.1 Habitat Protection Component

Objective

Support and coordinate the processes to incorporate new areas of jaguar habitat under some conservation and protection status.

Activities

- a.** Promote the conservation and protection of priority areas as either Natural Protected Areas, Certified Lands for Conservation, communal and/or private reserves of Federal and State recognition, or UMAS.
- b.** Incorporate lands where conservation of the jaguar and its habitat is occurring, both formally and informally, into payment for environmental services (PSA - Carbon capture, Hydrological, and Biodiversity Conservation) and Conservation Programs for Sustainable Development (PROCOCODES).
- c.** Promote municipal territorial ordinances in the priority areas for conservation of the jaguar through interinstitutional coordination.

d. Promote the inclusion of priority areas for conservation of the jaguar as scoring criteria for the PROARBOL program within the CONAFOR, as well as strengthen interinstitutional coordination.

e. Establish a robust link between the Technical Subcommittee as a consultative organ of SEMARNAT in order to consider their observations regarding their opinions about Environmental Impact Statements (MIA) for megaprojects in public or private works in the priority conservation areas, which may hinder or disturb jaguar habitat.

f. Promote the legal recognition of the concept of "biological corridors" to ensure availability of land and optimal conditions for the conservation of the jaguar and its great importance as an umbrella species.

1.2 Prey Population Protection Component

Objective

Promote actions to strengthen appropriate measures for the conservation and sustainable management of key prey populations in the priority areas of jaguar conservation.

Activities

a. Among different sectors, coordinate actions to promote the necessary measures to ensure the conservation and sustainable management of key jaguar prey.

b. Design and implement conservation and sustainable management strategies for key prey populations, according to their status and threats.

1.3 Legal Framework Component

Objective

Identify the legal framework and implement the mechanisms and strategies to ensure its proper application and management towards conservation of the jaguar and its habitat.

Activities

a. Promote mechanisms for evaluating and modifying the legal framework and establish efficient mechanisms to disseminate updates on legal and regulatory issues.

b. Establish mechanisms for interinstitutional coordination to promote compliance with the conditions of Environmental Impact Statements for projects that are implemented in priority conservation areas of the jaguar.

c. Propose methods to strengthen compliance with environmental regulations in the national territory, including close coordination with neighboring countries involved in existing international projects ("Jaguars without Borders" and "Northern Jaguars").

d. Promote evaluation mechanisms for management plans and utilization rates for UMAs established in the priority regions for jaguar conservation (minimum viable protocols).

1.4 Inspection and Surveillance Component

Inspection

Objective

Create an efficient system of receiving and distributing complaints to the responsible authorities who can act immediately to discourage illegal actions within the priority conservation areas of the jaguar.

Activities

a. In close coordination with the Federal Environmental Protection Agency (PROFEPA), promote timely attention to complaints and grievances that relate to direct and indirect effects to jaguars, prey species and their habitats.

- Direct effects are those related to hunting for marketing of products and byproducts, removal of wildlife, and retaliatory hunting in response to livestock depredation.
- Indirect effects refer to all of those related to their habitat (e.g., changes in habitat structure, indiscriminate hunting of prey).

b. Develop a map of directly and indirectly affected critical areas and routes for jaguars to prioritize preventive and punitive actions as required.

c. Reduce poaching by developing management strategies for each type of hunting identified and recognizing and engaging the legally-established hunting sector as a crucial collaborator in disseminating regulations and conservation efforts for the species and their prey to other stakeholders.

Surveillance

Objective

Promote social participation strategies for environmental monitoring under different approaches and agency strategies, including the concept of community networks for conservation in priority conservation areas within the jaguar's range.

Activities

a. In close coordination with the various government agencies involved, promote social participation in priority conservation areas for jaguars, supported by Temporary Employment Programs (PET) and Conservation Projects for Sustainable Development (PROCOCODES).

b. Establish interagency coordination mechanisms to promote social participation in a collaborative way that promotes rural sustainable development, optimizing resources and strengthening the interest and permanent active participation in the conservation of jaguar habitat and prey.

- Participatory Environmental Surveillance Community Program of PROFEPA.
- Program of Environmental Promoters and Community Networks for Conservation of CONANP.
- Fire Brigades Program of CONAFOR.
- Payments for Environmental Services for Biodiversity Conservation Program of the CONAFOR.
- Social Promoters Program of CDI.
- Rural Police Program (environmental focus) of SEDENA.

c. Promote actions inside and outside the communities involved in the Community Surveillance Committees, in coordination with Ejido, Municipal and Federal authorities, to discourage land use change in priority areas for jaguar conservation.

2. RESTORATION

2.1 Restoration of Habitat and Ecosystems Component

Objective

Promote the restoration of disturbed areas that are located within the priority areas for jaguar conservation, with emphasis on Natural Protected Areas (ANPs).

Activities

- a.** Identify “critical” disturbed areas inside and outside natural protected areas, including priority areas for jaguar conservation that are potentially key for the continuity of gene flow.
- b.** Coordinate interagency actions for restoration programs in disturbed areas identified as "critical."
- c.** Implement land restoration activities in conjunction with ANPs in priority areas for jaguar conservation.

3. MANAGEMENT

3.1 Habitat Management Component

Objective

Promote actions and activities to ensure permanence of sufficiently connected habitat that can maintain viable jaguar populations in both formally declared Natural Protected Areas, as well as in priority areas without any protection status.

Activities

- a.** Ensure land where formal and informal jaguar and jaguar habitat conservation actions are implemented receive the benefits of following programs: Environmental Services (PSA), Temporary Employment Program (PET) and Conservation Programs for Sustainable Development (PROCOCODES). In priority areas under some protection status or that have been identified as important for this species, limit and/or regulate production activities and infrastructure that may threaten these areas. For example: Michoacan Coast, Sierra de Tamaulipas, Zoque Forest, Coastal Plain Sinaloa, Sierra Norte de Oaxaca, Wetlands of the Gulf of Mexico and Sierra of Guerrero.
- b.** Promote the review and monitoring of management programs of ANPs and UMAs located in priority areas to adjust and improve them, in concert with the owners and holders of UMAs.
- c.** Promote and monitor the Territorial Land Programs in municipalities and communities located in priority areas for jaguar conservation to promote continuity of habitat providing biological corridors allowing for species gene flow.
- d.** Propose the inclusion of an extra score in the Terms of Reference of the PROARBOL program for areas that maintain jaguar populations.
- e.** Establish and promote guidelines or liaison strategies for the Subcommittee and the Secretaries for the provision of technical elements in the development of mega projects of public or private works in conservation priority areas, focusing on the review of Environmental Impact Statements to ensure as much as possible that the conditions are met.
- f.** Promote the recognition of strategic conservation areas through the legal definition of "critical habitat of the jaguar" in accordance with the LGVS and its regulations.

3.2 Livestock Management Component

Objective

To promote, design and deliver informational programs focused on reducing cases of depredation by jaguars and other wild carnivores, in coordination with academia, NGOs and government agencies related to the promotion of sustainable rural development.

Activities

- a.** Develop a database with the help of the National Livestock Confederation SAGARPA identifying hotspots of jaguar-livestock conflict in priority areas with emphasis on Level I areas: Northwest of the Yucatan Peninsula, Yucatan; Sian Ka'an, Quintana Roo; Calakmul, Campeche and Quintana Roo; Lacandona, Chiapas; Chimalapas, Oaxaca; Chamela Cuixmala, Jalisco; West Corridor Region (Nayarit, Michoacan, Jalisco); Northeast Sonora and Tamaulipas.
- b.** Develop regional diagnostics to promote interagency meetings according to the priorities identified in the jaguar-livestock conflict issue.

- c. Develop and implement the Manual for the Attention of Depredation Cases of Livestock by Wild Carnivores in coordination with specialists, environmental authorities and government agencies in agricultural and livestock development, which will be disseminated to all environmental authorities and NGOs in agricultural and livestock development.
- d. Modify and promote the Livestock Development Program (PROGAN), mainly in the Natural Protected Areas located within the priority areas for jaguar conservation, in order to organize livestock activities in areas within the jaguar's range.
- e. Promote an agreement between SEMARNAT and SAGARPA to implement a program of improved livestock management, as well as notification strategies and immediate attention to conflicts related to livestock depredation by jaguars, mainly in priority areas for jaguar conservation.
- f. Develop and promote an incentive program of tolerance for large predators within the range of the jaguar and other felines under a strategic approach of sustainable rural development (avoiding resorting to programs of "compensation" for damages).
- g. Distribution to Government authorities in the environmental sector, of the Directory of regional experts and working groups for the immediate attention of livestock depredation conflicts (which is supported by the Technical Advisory Subcommittee for the Conservation and Sustainable Management of Jaguar).

4. KNOWLEDGE

4.1 Priority Areas Component

Objective

Confirm through a national census identification of Priority Conservation Areas. Meaning those natural areas, protected or not, that maintain viable wild jaguar populations and those that are important to maintain the species (mainly biological corridors). Taking into account this definition, the PREP of Jaguar in Mexico identified six Priority Areas (AP), which overlap significantly with the results of the First Mexican Jaguar Symposium in the XXI Century, where it was determined that these of Priority Conservation Areas be classified into three levels or categories according to the conservation priorities identified so far.

PRIORITY LEVEL I

Northwest Yucatan
 Sian Ka'an, Quintana Roo
 Calakmul, Campeche and Quintana Roo
 Lacandona, Chiapas
 Chimalapas, Oaxaca
 Chamela Cuixmala, Jalisco
 West Corridor Region (Nayarit, Michoacan, Jalisco)
 Northeast Sonora
 Tamaulipas

PRIORITY LEVEL II

Sinaloa
Nayarit Coast
Cabo Corrientes, Jalisco
Michoacán Coast
Guerrero Coast
Northern Oaxaca
Coast and Sierra Madre del Sur Chiapas
Campeche Coast

PRIORITY LEVEL III

Querétaro
Nuevo León
Veracruz
San Luis Potosí
Estado de México

Activities

a. Identify critical areas for the recovery of the jaguar in Mexico, particularly source populations and connectivity between populations through a monitoring and population density study nationwide.

b. Strengthen the coordination of actions towards jaguar habitat conservation with ANPs, mainly focused on:

- Promote the use of the jaguar's image as an umbrella species as a strategy for conservation of ecosystems in areas of influence of ANP.
- Promote, in a coordinated manner, technical assistance programs in agriculture and livestock in the communities in areas of influence.
- Promote coordinated actions for the Municipal and Statewide Ecological Territorial Ordering aimed at preventing changes in land use in priority areas for jaguar conservation.
- Promote active social participation in the protection of the jaguar and its habitat based on the recognition of the cultural and environmental diversity existing in each region.

4.2 Scientific Research Component

Objective

In coordination with the Technical Advisory Subcommittee for the Conservation and Sustainable Management of the Jaguar, support and promote research in priority areas that generates robust information in order to develop local and regional strategies that lead to the conservation and recovery of jaguar populations.

Activities

- a.** Standardize research protocols regarding monitoring, physical health and genetics, PHVA, food habits, current distribution, and population density of jaguars, as well as socio-economic situations within the jaguar's range. In addition, follow up with and strengthen the activities in the Mexican Jaguar Symposium in the XXI Century (2005, 2006).
- b.** Establish a population simulation model that defines the number of jaguars in the country, as well as the minimum population required to consider the species viable and safe from extinction.
- c.** Quantify the main prey species and the minimum number required to maintain the baseline population of jaguars.
- d.** Every 5 years, evaluate the rate of change and forest cover fragmentation within critical areas for jaguar conservation at a national scale with the National Forest Inventory 2000-2001 (and subsequent forest inventories), the Vegetation Series and Land Usage from the INEGI (e.g., Series 3), and/or by analyzing satellite images (e.g., MODIS images, resolution 1 km).
- e.** In coordination with the Technical Advisory Subcommittee for the Conservation and Sustainable Management of the Jaguar, develop the terms of reference for the implementation of a study to identify critical areas for jaguar conservation in Mexico.
- f.** Manage the search for funding for projects identified as key for the conservation strategy of the species.
- g.** Every six months, assess and monitor the progress of actions implemented for the protection and conservation of the jaguar and its habitat in order to make modifications or corrections to achieve the objectives.

4.3 Biological Monitoring Component

Objective

Promote a standardized system for biological monitoring of the jaguar at the national level within and outside of Natural Protected Areas.

Activities

- a.** In coordination with ANPs and the Technical Advisory Subcommittee for the Conservation and Sustainable Management of the Jaguar, design a jaguar monitoring protocol in ANPs in order to have uniform monitoring criteria for all priority areas and initiate the creation of a database for CONANP.
- b.** Systematically implement the National Census of the Jaguar (*Panthera onca*) every three years to measure the changes and threats to which jaguar populations are exposed.

c. Implement and continuously update a database and a Geographic Information System for jaguars that reflect baseline population information, extension of areas, areas under protection, and prey information to support decision-making for conservation and recovery projects.

5. CULTURE

5.1 Environmental Education Component

Objective

To achieve awareness and influence new behavior for the general population by promoting a culture of conservation of the jaguar as a keystone species in the conservation of ecosystems, based on knowledge of its cultural, biological and ecological value.

Activities

a. Convene and promote a working group of governmental and non-governmental organizations (in areas of environmental education and social communication) in order to standardize criteria and join efforts for a comprehensive environmental education campaign in both rural and urban settings. (CONANP, CECADESU, CONABIO, INE, PROFEPA, CONACYT, conservation NGOs, civil society, state governments, SEP, CDI and SAGARPA).

5.2 Communication and Information Component

Objective

In coordination with the Technical Advisory Subcommittee for the Conservation and Sustainable Management of the Jaguar, promote a communications and outreach campaign using formal and informal media individually targeting rural and urban audiences. Promote the jaguar as a charismatic species to the general population, address each particular problem with a concrete outreach product, reclaim the traditional values that people held toward jaguars to recover the jaguar's enormous cultural value and sense of belonging among Mexicans throughout its range.

Activities

a. Translate and disseminate scientific information concerning the jaguar to the different sectors of society in a language appropriate for their understanding, awareness and greater participation.

b. Design and define content and optimal media under a regional approach.

c. Develop a Marketing Program for the species (corporate image design (logo, mascot, etc.) that provokes feelings).

d. Promote and manage pro- jaguar conservation events (Conferences, Day of the Jaguar, contests, etc.).

e. Promote the integration, dissemination and participation of all stakeholders involved in setting up an informational website for specialists and the general public in order to achieve interest and participation in the conservation of the jaguar nationally and internationally.

f. Promote and manage a communication strategy to sensitize the population on two levels:

- In rural areas, ensure coexistence and respect for the species using the following media: talks, lectures, videos, radio spots, television, and brochures in general.
- Promote the use of government programs, such as PROCODES and PET, in jaguar priority areas focused on the creation of Environmental Promoters and Community Networks for Conservation, under the management of CONANP.
- In the urban sector, use mass media with messages that are explicit and accessible to the population as a whole.

5.3 Community Training Component

Objective

Reduce activities likely to cause habitat fragmentation and direct loss of individuals and /or populations of jaguars in the priority areas for conservation by searching for and promoting social participation, represented by a greater degree of information, participation and involvement by *ejidatarios* and/or small landowners located in these areas.

Activities

a. In coordination with governmental and non-governmental organizations, within the strategies of environmental education, communication and dissemination, promote exchanges of inter-community experiences in order to raise awareness of local people about the importance of their work in reclaiming the cultural value of the jaguar and its relevance in the ecosystem as an umbrella species. Likewise, develop community training workshops focused on:

- Promotion of profitable activities compatible with conservation of the jaguar and its habitat (ecotourism, UMAS, forestry production chains, etc.).
- Environmental regulations.
- Biological monitoring of the species.

b. Raise awareness of local people about the importance of conserving habitat as a resource of ecological value and use.

6. MANAGEMENT

6.1 Involved Stakeholders Component

Objective

Promote the integration and cooperation of all national and international stakeholders involved to achieve effective collaboration in strategic planning to optimize resources and efforts to ensure achievement of the jaguar conservation objectives.

Ensure coordination between Technical Advisory Subcommittees and working groups of species that share habitat with the jaguar to collaborate on an ecosystem approach to conservation.

Activities

a. Promote and disseminate the benefits and advantages of the conservation strategy of the jaguar under the "umbrella" species approach, within and throughout institutions.

b. Create opportunities and forums to share experiences to ensure a process of adaptation to a changing reality, for which flexible mechanisms and effective communication and interaction will be designed among all those involved in a national and international scope.

c. Strengthen research, conservation, environmental education and sustainable development projects that are currently carried out by communities, civil society organizations and academic institutions, including coordinating activities with neighboring countries.

d. Promote a SEMARNAT-CONACYT joint fund for studies on the jaguar to manage and generate financial and human resources for scientific research in states where the species is distributed.

e. Establish partnerships between SEMARNAT-SECTUR, SEMARNAT-CFE, SEMARNAT-PEMEX, SEMARNAT-SCT for the detailed evaluation of Environmental Impact Statements (or MIAs) for development projects in priority areas for jaguar conservation in compliance with the Transversal Agenda on Environmental Agreements (with the collaboration of the Technical Advisory Subcommittee).

6.2 Programming Component

Objective

To operate in a manner that is both systematic and linked to the Technical Advisory Subcommittee for the Conservation and Sustainable Management of the Jaguar in compliance with a scheduled 2007-2012 Work Program establishing short, medium and long term goals.

Activities

a. Schedule semi-annual meetings for evaluating and monitoring strategies actions implemented in the 2007-2012 Work Program in coordination with the Technical Advisory Subcommittee for the Conservation and Management of the Jaguar.

b. Promote, support and insert state and regional strategies for the conservation of the jaguar and its habitat into the Program of Action in order to highlight the importance of biological corridors of natural vegetation preferably allowing for the gene flow of jaguars and other species in order to have the ability to maintain biological and genetic richness because it is essential for this species to have large areas to maintain viable populations (State Programs of Jaguar Conservation in: Oaxaca, Jalisco, Nayarit, Michoacán, Northeast Regional Program).

c. Strengthen coordination with the Natural Protected Areas located in priority areas for jaguar conservation in order to strengthen programs that promote community development alternatives and reduce pressure on the habitat, primarily in biological corridors currently identified.

d. Strengthen and consolidate links with international projects for the conservation of the jaguar and its habitat:

- Mesoamerican Biological Corridor Project.
- Jaguars without Borders Project (Guatemala, Belize and Mexico).
- Northern Jaguar Project (Arizona, New Mexico and Mexico).
- Trilateral Committee for the Conservation and Management of Wildlife and Ecosystems (promote strengthening of the jaguar conservation theme).
- Project Puebla Panama Plan following the actions of the Jaguars without Borders initiative.

e. Implement jaguar habitat conservation actions and strategies of in compliance with the Transversal Agenda on Environmental Agreements of the Environment and Natural Resources Sector Program 2007-2012.

6.3 Monitoring and Evaluation Component

Objective

To ensure full compliance with the objectives and goals of this program by timely assessment and monitoring of actions and strategies implemented for which indicators and targets established must be measurable, specific, temporally defined, achievable and meaningful in the short, medium and long term.

Activities

- a.** Identify critical moments for interim evaluations during implementation of projects independent of those scheduled with the Technical Advisory Subcommittee for the Conservation and Sustainable Management of Jaguar.
- b.** Increase forums and strengthen mechanisms to distribute the preliminary and final results of the actions implemented, so as to identify degrees of progress and performance through which a feedback exercise might suggest changes and corrections.
- c.** Design analysis and feedback mechanisms to allow the program to evolve in accordance with the needs and circumstances of conserving the jaguar and its habitat.

VIII. Success Indicators

Note: Short Term 1-2 years, Medium Term 3-4 years, Long Term more than 5 years.

Conservation Strategy	No.	Success Indicator	Short Term	Medium Term	Long Term
Protection	1	Decrease in complaints about hunting, commercialization and capture of specimens.			X
	2	Increased number of social participation groups under various schemes (participatory environmental monitoring committees, Community Networks for Conservation and environmental advocates) focused on jaguar conservation.		X	
	3	Number of meetings, exchanges of experience, community workshops, with participation of social groups interested in the conservation of the species and its habitat.			X
Restoration	4	Increased number of stakeholders and programs focused on habitat identification and restoration actions.		X	X
	5	Number of hectares of land restored that contribute to increasing the extent of jaguar habitat.		X	X
Management	6	Increase in the number of hectares of habitat available for the conservation of jaguars and their prey incorporated into conservation programs (ANP, UMA, UMAFOR, PSA, PCC, etc.)			X
	7	Increased abundance of potential jaguar prey.	X	X	
	8	Decreased jaguar loss from livestock conflicts.	X	X	
	9	Increased livestock production programs under technical assistance in priority areas.		X	

Conservation Strategy	No.	Success Indicator	Short Term	Medium Term	Long Term
Knowledge	10	Number of scientific studies focused on biological and ecological monitoring of the species.		X	X
	11	Increased number of priority areas where jaguar conservation work and research is developed.		X	X
Culture	12	Increase the dissemination and outreach in electronic and print media available, with emphasis on regions within the jaguar's natural range.	X	X	X
	13	Increased number of training, outreach and environmental education events.	X	X	X
	14	Increased participation in informational forums about the species and efforts to conserve it.	X	X	X
Management and Programing	15	Increase the number of interagency agreements focused on jaguar habitat conservation programs.	X		
	16	Increases in financial and human resources applied to jaguar conservation programs and actions.	X	X	
	17	Increase in communities participating in ecotourism.		X	X
	18	Increased international agreements focused on conservation of the jaguar and its habitat.		X	X
	19	Increase in the number of stakeholders involved in the conservation of the jaguar and its habitat.		X	X
Monitoring and Evaluation	20	Number of goals achieved with the development and implementation of the actions planned in PACE Jaguar.		X	X
	21	Number of evaluation meetings with the Group of Specialists (Technical Advisory Subcommittee).		X	X

X. Table of Activities

Activities	Success Indicator	Short Term	Medium Term	Long Term
1.1 Habitat Protection Component				
Promote the conservation and protection of priority areas as either Natural Protected Areas, Certified Lands for Conservation, communal and/or private reserves of Federal and State recognition, or UMAS.	6, 5, 11	X	X	X
Incorporate lands where conservation of the jaguar and its habitat is occurring, into payment for environmental services and PROCODES.	5, 6, 7, 2	X	X	X
Promote municipal territorial ordinances in the priority areas for jaguar conservation through interinstitutional coordination.	6, 9, 11, 15			X
Promote the inclusion of priority areas for jaguar conservation as scoring criteria for the PROARBOL program within the CONAFOR, as well as strengthen interinstitutional coordination.	6, 12, 19		X	X
Establish a robust link between the Technical Subcommittee as a consultative organ of SEMARNAT in order to consider their observations regarding opinions about Environmental Impact Statements works, which may hinder or disturb the jaguar habitat.	11, 15, 21	X	X	
Promote the legal recognition of the concept of "biological corridors" to ensure availability of land and optimal conditions for the conservation of the jaguar and its great importance as an umbrella species.	6, 15, 19, 20	X	X	

Activities	Success Indicator	Short Term	Medium Term	Long Term
1.2 Prey Population Protection Component				
Among different sectors, coordinate actions to promote the necessary measures to ensure the conservation and sustainable management of key jaguar prey.	7, 9, 10, 11		X	X
Design and implement conservation and sustainable management strategies for key prey populations according to their status and threats.	2, 5, 6, 7, 16		X	X
1.3 Legal Framework Component				
Promote mechanisms for evaluating and modifying the legal framework and establish efficient mechanisms to disseminate updates on legal and regulatory issues.	15, 18	X	X	
Establish mechanisms for interinstitutional coordination to promote compliance with the conditions of Environmental Impact Statements for projects that are implemented in priority conservation areas of the jaguar.	13, 15, 21	X	X	
Propose methods to strengthen compliance with environmental regulations in the national territory, including close coordination with neighboring countries involved in existing international projects ("Jaguars without Borders" and "Northern Jaguars").	15, 16, 21	X	X	X
Promote evaluation mechanisms for management plans and utilization rates for UMAs established in the priority regions for jaguar conservation (minimum viable protocols).	5, 6, 7		X	X

Activities	Success Indicator	Short Term	Medium Term	Long Term
1.4 Inspection and Surveillance Component				
In close coordination with the PROFEPA, promote timely attention to complaints and grievances that relate to direct and indirect effects to jaguars, prey species and their habitats.	1, 2	X	X	X
Develop a map of directly and indirectly affected critical areas and routes for jaguars to prioritize preventive and punitive actions as required.	1, 2	X		
Recognize and engage the legally-established hunting sector as a crucial collaborator in disseminating regulations and conservation efforts for the species and their prey to other stakeholders.	1, 4, 15	X		
In close coordination with the various government agencies involved, promote social participation in priority conservation areas for jaguars, supported by PET and PROCODES.	2, 5, 9, 17	X	X	
Establish interagency coordination mechanisms to promote social participation in a collaborative way that promotes rural sustainable development, optimizing resources and strengthening the interest and permanent active participation in the conservation of jaguar habitat and prey.	3, 15, 19	X	X	
Promote actions inside and outside the communities involved in the Community Surveillance Committees, in coordination with Ejido, Municipal and Federal authorities, to discourage land use change in priority areas for jaguar conservation.	6, 9, 12, 13, 14	X	X	

Activities	Success Indicator	Short Term	Medium Term	Long Term
2.1 Restoration of Habitat and Ecosystems Component				
Identify “critical” disturbed areas inside and outside ANP, including priority areas for jaguar conservation that are potentially key for the continuity of gene flow.	4, 5, 10, 15	X	X	
Coordinate interagency actions for restoration programs in the disturbed areas identified as "critical."	4, 5, 15, 16	X	X	
Implement land restoration activities in conjunction with ANPs in priority areas for jaguar conservation.	4, 5, 6, 15, 16	X	X	
3.1 Habitat Management Component				
In priority conservation areas or other identified as key areas, ensure lands receive the benefits of PSA (CABSA, hydrological and biodiversity), PET and PROCODES.	5, 6, 9	X	X	
Promote the review and monitoring of management programs of ANPs and UMAs located in priority areas to adjust and improve them.	6, 9		X	
Promote and monitor the Territorial Land Programs in municipalities and communities to promote continuity of habitat providing biological corridors.	9, 15, 19, 20			X
Propose the inclusion of an extra score in the Terms of Reference of the PROARBOL program for areas that maintain jaguar populations.	15, 19, 21	X		
Establish liaison strategies for the Technical Advisory Subcommittee and the Secretaries for the provision of technical elements in the development of mega projects in conservation priority areas, focusing on the review of Environmental Impact Statements.	15, 19, 21	X		
Promote the recognition of strategic conservation areas through the legal definition of "critical habitat of the jaguar".	10, 15, 21	X		

Activities	Success Indicator	Short Term	Medium Term	Long Term
3.2 Livestock Management Component				
Develop a database to identify hotspots of jaguar-livestock conflict in priority areas with emphasis on Level I areas.	2, 10, 16	X	X	
Develop regional diagnostics to promote interagency meetings according to the priorities identified in the jaguar-livestock conflict issue.	2, 3, 4, 10, 16	X	X	
Develop and implement the Manual for the Attention of Depredation Cases of Livestock by Wild Carnivores in coordination with specialists, environmental authorities and government agencies in agricultural and livestock development.	1, 8, 10, 16	X	X	
Modify and promote the Livestock Development Program (PROGAN), mainly in the Natural Protected Areas located within the priority areas for jaguar conservation.	1, 4, 8, 16		X	
Promote an agreement between SEMARNAT and SAGARPA to implement a program of improved livestock management and strategies to reduce conflicts related to livestock depredation by jaguars.	1, 4, 8, 10, 16	X	X	
Distribute the Directory of regional experts and working groups for the immediate attention of livestock depredation conflicts to Government authorities in the environmental sector.	4, 12, 21	X		

Activities	Success Indicator	Short Term	Medium Term	Long Term
4.1 Priority Areas Component				
Identify priority areas for jaguar recovery.	10, 11	X	X	
Identify critical areas for persistence and recovery of the jaguar in Mexico, particularly source populations and connectivity between populations.	10, 16	X	X	
Promote and manage support and funding for jaguar and jaguar habitat research and conservation projects in priority areas.	10, 11, 16	X	X	X
Strengthen the coordination of actions for jaguar habitat conservation with the ANPs located in the priority areas.	2, 15, 19	X	X	
4.2 Scientific Research Component				
Standardize research protocols regarding monitoring, physical health and genetics, PHVA, food habits, current distribution, and population density of jaguars, as well as socio-economic situations within the jaguar's range.	10, 16, 19	X	X	
Every 5 years, evaluate the rate of change and forest cover fragmentation within critical areas for jaguar conservation at a national scale with the National Forest Inventory 2000-2001 (and subsequent forest inventories), INEGI Series 3.	10, 16, 19	X		X
Develop the terms of reference for a study to identify critical areas for jaguar conservation.	10, 16, 19	X	X	
Manage the search for funding for projects identified as key for the conservation strategy of the species.	15, 16, 18, 19	X	X	
Every six months, assess and monitor the progress of actions implemented.	20, 21	X	X	X

Activities	Success Indicator	Short Term	Medium Term	Long Term
4.3 Biological Monitoring Component				
In coordination with the ANPs and the Technical Advisory Subcommittee, design a jaguar monitoring protocol in ANPs in order to have uniform monitoring criteria for all priority areas and initiate the creation of a database for CONANP.	6, 10	X	X	
Systematically implement the National Census of the Jaguar every three years.	7, 10, 16	X	X	X
5.1 Environmental Education Component				
Convene and promote a working group of governmental and non-governmental organizations in order to standardize criteria and join efforts for a comprehensive environmental education campaign in both rural and urban settings. (CONANP, CECADESU, CONABIO, INE, PROFEPA, CONACYT, conservation NGOs, civil society, state governments, SEP, CDI and SAGARPA).	12, 13, 14	X	X	
5.2 Communication and Information Component				
Translate and disseminate scientific information concerning the jaguar to the different sectors of society in a language appropriate to their understanding, awareness and greater participation.	10, 12, 13, 14	X	X	X
Design and define content and optimal media under a regional approach.	12, 13, 14	X	X	
Develop a Marketing Program for the species (corporate image design, logo, mascot, etc.).	14, 16, 19, 20		X	X
Promote and manage a communication strategy inform people at the rural and urban levels.	12, 13, 14, 15	X	X	
Promote and manage pro-jaguar conservation events.	12, 13, 14	X	X	X
Promote the integration and participation of all stakeholders involved in setting up an informational website for specialists and the general public in	12, 16, 19	X		

order to achieve interest and participation in the conservation of the jaguar nationally and internationally.				
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Activities	Success Indicator	Short Term	Medium Term	Long Term
5.3 Community Training Component				
In coordination with governmental and non-governmental organizations, within the strategies of environmental education, communication and dissemination, promote exchanges of inter-community experiences in order to raise awareness of local people about the importance of their work in reclaiming the cultural value of the jaguar and its relevance in the ecosystem as an umbrella species.	2, 3, 13, 14	X	X	X
Raise awareness of local people about the importance of conserving habitat as a resource of ecological value and use.	2, 3, 16	X	X	X
6.1 Involved Stakeholders Component				
Promote and disseminate the benefits and advantages of the conservation strategy of the jaguar under the "umbrella" species approach, within and throughout institutions.	12, 13, 15, 16	X	X	
Create opportunities and forums to share experiences to ensure a process of adaptation to a changing reality, for which flexible mechanisms and effective communication and interaction will be designed among all those involved in a national and international scope.	2, 14, 16, 18	X	X	X
Strengthen research, conservation, environmental education and sustainable development projects that are currently carried out by communities, civil society organizations and academic institutions, including coordinating activities with neighboring countries.	2, 3, 10, 14, 16, 19		X	X

Activities	Success Indicator	Short Term	Medium Term	Long Term
Promote a SEMARNAT-CONACYT joint fund for studies on the jaguar to manage and generate financial and human resources for scientific research in states where the species is distributed.	10, 15, 16		X	X
Establish partnerships between SEMARNAT-SECTUR, SEMARNAT-CFE, SEMARNAT-PEMEX, SEMARNAT-SCT for the detailed evaluation of Environmental Impact Statements for development projects in priority areas for jaguar conservation, in compliance with the Transversal Agenda on Environmental Agreements (with the collaboration of the Technical Advisory Subcommittee).	10, 15, 16, 21	X	X	
6.2 Programming Component				
Schedule semi-annual meetings for evaluating and monitoring strategies and actions implemented in the 2007-2012 Work Program in coordination with the Technical Advisory Subcommittee for the Conservation and Management of the Jaguar.	16, 20, 21	X	X	
Promote, support and insert state and regional strategies for the conservation of the jaguar and its habitat into the Program of Action in order to highlight the importance of biological corridors of natural vegetation preferably allowing for the gene flow of jaguars and other species in order to have the ability to maintain biological and genetic richness because it is essential for this species to have large areas to maintain viable populations.	11, 15, 16	X	X	X
Strengthen coordination with the Natural Protected Areas located in priority areas of jaguar conservation in order to strengthen programs that promote community development alternatives and	2, 11, 12, 15, 16	X	X	

reduce pressure on the habitat, primarily in currently identified biological corridors.				
Strengthen and consolidate links with international projects for the conservation of the jaguar and its habitat.	18, 19	X	X	X
Implement jaguar habitat conservation actions and strategies of in compliance with the Transversal Agenda on Environmental Agreements of the Environment and Natural Resources Sector Program 2007-2012.	14, 15, 16, 20	X	X	
6.3 Monitoring and Evaluation Component				
Identify critical moments for interim evaluations during implementation of projects independent of those scheduled with the Technical Advisory Subcommittee for the Conservation and Sustainable Management of Jaguar.	20, 21	X		
Increase forums and strengthen mechanisms to distribute the preliminary and final results of the actions implemented, so as to identify degrees of progress and performance through which a feedback exercise might suggest changes and corrections.	12, 13, 14, 21	X		
Design analysis and feedback mechanisms to allow the program to evolve in accordance with the needs and circumstances of conserving the jaguar and its habitat.	15, 19, 21	X	X	X

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XI. Appendices

Appendix I. Legal Framework

Legislation in Mexico		
Legal Instrument	Description	Scope
Political Constitution of the United States of Mexico	Maximum legal governing statute. Art.27.	National
Federal Penal Code	Federal statute establishing environmental criminal offenses in Mexico. Art. 414 to 423.	National
General Law of Ecological Equilibrium and Environmental Protection (LGEEPA)	This Law regulates the provisions of the Political Constitution of the United States of Mexico relating to the preservation and restoration of ecological balance, as well as environmental protection in the country and the areas over which the nation exercises sovereignty and jurisdiction. Its provisions are of public order and social interest and are intended to encourage sustainable development and establish the foundation to guarantee the right of everyone to live in an adequate environment for their development, health and welfare; define the principles of environmental policy and instruments for its implementation; preservation, restoration and enhancement of the environment; the preservation and protection of biodiversity, and the establishment and management of protected areas; sustainable use, preservation and, where appropriate, restoration of soil, water and other natural resources.	National

Legislation in Mexico		
Legal Instrument	Description	Scope
Regulations of the LGEEPA on Protected Areas.	Regulations of LGEEPA Article 5, section VIII. This regulation is generally observed throughout the country and in areas where the Nation exercises sovereignty and jurisdiction. Aims to regulate the General Law of Ecological Equilibrium and Environmental Protection, in regards to the establishment, administration and management of Federal protected areas.	National
General Wildlife Act and Regulations	Regulation of the third paragraph of Article 27 and the fraction XXIX, paragraph G of constitutional Article 73; is of public order and social interest. Its purpose is to establish the concurrence of the Federal, State and Municipal Governments, within their respective powers, on the conservation and sustainable use of wildlife and its habitat in the territory of Mexico and in areas where the Nation exercises its jurisdiction. The sustainable use of timber resources and aquatic species are excluded from the application of this law and remain subject to forestry and fishery laws respectively, except for species or populations at risk.	National
NOM-059-SEMARNAT 2001	Official Mexican Regulation. Environmental Protection - Mexican native species of wild flora and fauna - risk categories and specifications for inclusion, exclusion or change - list of endangered species.	National

Legislation in Mexico		
Legal Instrument	Description	Scope
Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES.	CITES is an international legal instrument governing wildlife threatened by trade through a system of permits and certificates that are issued for export, re-export, import and introduction from the sea; of animals and plants, alive or dead and their parts and derivatives.	International (Signatories)
Indefinite ban on the exploitation of the Jaguar 1987.	Agreement declaring an indefinite ban the use of the jaguar species (<i>Panthera onca</i>) throughout the national territory, including strict prohibitions on jaguar hunting, capture, transportation, possession and trade.	National
NPA Management Programs.	Policy instrument of the Internal Regulations of SEMARNAT. Art. 145, Section V and VI Chapter Two.	Limited to the respective Natural Protected Area.
Federal Animal Health Law	This law is a regulation of Article 27 of the Constitution of the Mexican United States, its provisions are of public order and interest and observed throughout the country, and aims to regulate and promote the conservation, protection, restoration, production, cultivation, management and utilization of forest ecosystems in the country and its resources, and distribute forestry authorities that correspond to the Federation, the States, the Federal District and the municipalities, under the principle of competition under Article 73 fraction XXIX subsection G of the Political Constitution of the Mexican United States, in order to promote sustainable forestry development. In the case of forest resources whose ownership corresponds to indigenous peoples and communities, the provisions of Article 2 of the Constitution of the Mexican United States will be observed.	National

Legislation in Mexico			
Legal Instrument		Description	Scope
Sustainable Development Act	Rural	Regulatory art. 27 Section XX of CPEUM, its provisions are mandatory and are aimed at: promoting sustainable rural development in the country, providing a suitable environment, in terms of paragraph 4, of Article 4, and ensuring the guidance of the State and its role in promoting equity in terms of Article 25. It includes the planning and organization of agricultural production, processing and marketing and other goods and services, and all those actions to raise the quality of life of the rural population, as provided in Article 26 of the Constitution.	National
National Water Law		Regulatory art. 27 of the CPEUM in national waters, generally observed throughout the country, its provisions are of public order and social interest and seeks to regulate exploitation or use of such waters, distribution, control, and the preservation of their quantity and quality to achieve sustainable integrated development.	National

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Appendix III. Acronyms.

- ANP.** Área Natural Protegida: Natural Protected Area.
- CDI.** Comisión Nacional para el Desarrollo de los Pueblos Indígenas: National Commission for the Development of Indigenous Peoples.
- CEDADESU.** Centro de Educación y Capacitación para el Desarrollo Sustentable: Centre for Education and Training for Sustainable Development.
- CFE.** Comisión Federal de Electricidad: Federal Electricity Commission.
- CITES.** Convención sobre el Comercio Internacional de Especies Amenazadas de Fauna y Flora Silvestres: Convention on International Trade in Endangered Species of Wild Fauna and Flora.
- CONABIO.** Comisión Nacional para el Uso y Conocimiento de la Biodiversidad: National Commission for the Knowledge and Use of Biodiversity.
- CONACYT.** Consejo Nacional de Ciencia y Tecnología: National Council of Science and Technology.
- CONAFOR.** Comisión Nacional Forestal: National Forestry Commission.
- CONAGUA.** Comisión Nacional del Agua: National Water Commission.
- CONANP.** Comisión Nacional de Áreas Naturales Protegidas: National Commission of Natural Protected Areas.
- CPEUM.** Constitución Política de los Estados Unidos Mexicanos: Political Constitution of the Mexican United States.
- DEPC.** Dirección de Especies Prioritarias para la Conservación: Directorate of Priority Species for Conservation.
- INE.** Instituto Nacional de Ecología: National Institute of Ecology.
- INEGI.** Instituto Nacional de Estadística, Geografía e Informática: National Institute of Statistics, Geography and Computing.
- IUCN.** Unión Internacional para la Conservación de la Naturaleza: International Union for Conservation of Nature.
- LGVS.** Ley General de Vida Silvestre: General Wildlife Act.
- LGEEPA.** Ley General del Equilibrio Ecológico y la Protección al Ambiente: General Law of Ecological Equilibrium and Environmental Protection.
- MIA.** Manifestación de Impacto Ambiental: Environmental Impact Statement.
- NOM-059-SEMARNAT-2001.** Norma Oficial Mexicana: Official Mexican Standard.
- OET.** Ordenamiento Ecológico Ambiental: Ecological Environmental Management.
- ONG.** Organismos No Gubernamentales: Nongovernmental Organization.
- PACE.** Programa de Acción para la Conservación de Especies en Riesgo: Action Program for the Conservation of Species at Risk.
- PACE Jaguar.** Programa de Acción para la Conservación de Especies: Jaguar: Action Program for the Conservation of Species: Jaguar.
- PCC.** Predios Certificados para la Conservación: Certified Conservation Lands.
- PET.** Programa de Empleo Temporal: Temporary Employment Program.
- PEMEX.** Petróleos Mexicanos: Mexican Petroleum.
- PHVA.** Análisis de Viabilidad para Especies y Hábitat: Population and Habitat Viability Assessment.
- PREP.** Proyectos de Recuperación de Especies Prioritarias: Priority Species Recovery Projects.
- PROARBOL.** Esquema para combatir la pobreza, recuperar la masa forestal e incrementar la productividad de bosques y selvas de México: Scheme to combat poverty, restore forest cover and increase productivity of forests of Mexico.

PROCER. Programa de Conservación de Especies en Riesgo: Conservation Program for Species at Risk.

PROCODES. Programa de Conservación para el Desarrollo Sostenible: Conservation Program for Sustainable Development.

PROFEPA. Procuraduría Federal de Protección al Ambiente: Federal Attorney for Environmental Protection.

PROGAN. Programa de Producción Pecuaria Sustentable y Ordenamiento Ganadero y Apícola (antes Programa de Estímulos a la Producción Ganadera): PROGAN. Sustainable Livestock Production Program and Livestock Management and Beekeeping (before Livestock Production Incentives Program).

PSA. Pago por Servicios Ambientales: Payment for Environmental Services.

SAGARPA. Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación: Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food.

SARH. Secretaría de Agricultura y Recursos Hidráulicos: Ministry of Agriculture and Water Resources.

SCT. Secretaría de Comunicaciones y Transportes: Secretariat of Communications and Transportation.

SECTUR. Secretaría de Turismo: Ministry of Tourism.

SEDENA. Secretaría de la Defensa Nacional: Secretariat of National Defense.

SEDUE. Secretaría de Desarrollo Urbano y Ecología: Ministry of Urban Development and Ecology.

SEMARNAT. Secretaría de Medio Ambiente y Recursos Naturales: Secretariat of Environment and Natural Resources.

SEP. Secretaría de Educación Pública: Ministry of Education.

SHCP. Secretaría de Hacienda y Crédito Público: Secretariat of Finance and Public Credit.

UMA. Unidades de Manejo para la Conservación de Vida Silvestre: Wildlife Conservation Management Units.

UMAFOR. Unidades de Manejo Forestal: Forest Management Units.

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