

# Natural Protected Areas in Mexico

Mexico's wealth in terms of biodiversity is widely recognized worldwide. However, this richness is suffering a rapid deterioration whose rate has increased in recent years. Our country is undergoing an economic crisis never before experienced. Unfortunately, the development paradigm Mexico is following dictates costs in terms of improper use of natural resources, and hence will deliver a by-product we all know: ecosystem impoverishment or degradation.

In light of these facts, it seems appropriate to confer a greater priority on measures and actions promoting the sustainable development and use of natural resources. Regardless of priorities, however, the development of strategies and concrete actions for the management and operation of the protected areas of Mexico is still incipient, and in many respects shows serious deficiencies.

In 1988 the General Environmental Law was approved by the Congress. It constitutes the legal frame-

work of the National System of Protected Areas (known as SINAP) and of all natural protected areas in the country in general. Its second heading reads "Natural Protected Areas" and contains in two chapters a total of 35 articles with specific regulations on protected areas.

Article 76 reads: "The natural protected areas that are considered of Federal interest constitute as a whole the National System of Protected Areas." Article 46 of the same law lists the categories:

Table 1. A brief description of each category.

I	Biosphere Reserves
II	Special Biosphere Reserves
III	National Parks
IV	Natural Monuments
V	Marine National Parks
VI	Areas of Protection for Natural Resources
VII	Areas of Protection for Flora and Fauna (terrestrial and aquatic wildlife)
VIII	Urban Parks
IX	Zones Subject to Ecological Conservation

Hence, SINAP comprises nine major management categories, as well as five "undercategories" included within Category VI. The cor-

respondence of these categories with those internationally accepted and more widely used (e.g., the IUCN categories) is not clear at this point. In

fact, the "National Park" category as internationally defined confers a great deal of protection on natural resources, whereas in Mexico the same designation is used to refer to areas that serve a primarily recreational purpose.

We tend to talk about the Mexican "System" of protected areas as if such a thing really exists. Legally, as per the aforementioned law, it does exist, but in reality there is no system. What we have is a collection of discrete units established at different times and for various purposes which are not related in any way and which, even collectively, have failed in achieving the goal of protecting Mexico's natural resources.

There are differences in opinion with regard to the number and extent of the existing protected areas in Mexico. In IUCN's list of National Parks and Protected Areas, Mexico is mentioned as having a total of 61 areas, covering 9,419,669 ha.<sup>1</sup> According to our calculations, based on the information provided by each of the legal documents used to declare the areas, the actual extent covered by SINAP is slightly over 10 million ha (i.e., about 5% of the nation's territory). But this figure considers only federal territory, and includes the areas traditionally recognized under SINAP while leaving out other areas,

also formally established at the federal level, such as forest reserves and protected watersheds, and other names and categories that the law includes as undercategories within SINAP. If all of them are included, approximately 34% of the land area of Mexico is subject to a certain degree of legal protection, at the federal level, due to its natural features (Table 2).

If all the protected areas established at the state level were also taken into consideration, the total number of protected areas in Mexico would rise to more than 674, amounting to roughly 40% of the territory of the country. For example, in the state of Morelos only four areas are recognized at the federal level (shared with other states in fact), but, after reviewing the state's Government Official Acts, or Periódico Oficial "Tierra y Libertad" publications from the past 75 years (1919-1994), we found that there are 108 additional decrees imposing some degree of protection on areas of various sizes within the state.

The figures, therefore, only reveal the extent of the paperwork that has gone into establishing protected areas under more than 150 categories and names throughout the country. It is not an indicator of what is truly being strictly protected. Mexico is not immune to the "paper parks syndrome" that, as an epidemic disease, has hit several countries in the world.

The authorities were proud of creating the system under the General Environmental Law of 1988, but they made a very serious legal mistake

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<sup>1</sup> Editor's note: A check of the 1993 *United Nations List of National Parks and Protected Areas* (which is the most recent edition of the IUCN list) shows slightly different figures: 65 areas, covering 9,728,732 ha.

Table 2. Summary of federal-level Mexican protected areas

Management Category	Number of Areas	Extent (ha)
<b>Main Categories of SINAP</b>		
Biosphere Reserves	17	6,759,264
Special Biosphere Reserves	18	738,725
National Parks	60	824,653
Natural Monuments	3	13,023
Marine National Parks	2	386,006
Areas of Protection for Natural Resources (terrestrial and aquatic wildlife)	5	1,391,355
Other protected areas (beaches)	18	33,305
Research Stations	2	749
Subtotal, main categories of SINAP	125	10,147,082
		(5.07% of national territory)
<b>Undercategories of SINAP</b>		
Forest Protection Zones	77	11,190,410
Hydrological Watershed Protection Zones	12	45,000,000
Nat. Irrigation Districts Protection Zones	116	15,000,000
National Forest Reserves	19	1,158,861
Subtotal, undercategories of SINAP	224	72,349,271
		(29.23% of national territory)
Less overlap between main categories and undercategories		-13,886,200
<b>Grand Total</b>	<b>349</b>	<b>68,610,792</b>
		<b>(34.3% of national territory)</b>

Sources: Flores-Villela and Ordoñez 1995, PG 7 Consultores Data Bank (unpublished data).

Note: If state-level areas were included, the total number of protected areas would rise to more than 674, covering roughly 40% of the national territory.

which is never mentioned and which nobody realized until it was too late to do anything. They forgot to acknowledge, within the clauses of the 1988 law, the former existence of protected areas. Therefore, from a strict legal standpoint, only 22 protected areas comprise the current Mexican System, because only 1 Na-

tional Park, 2 Marine National Parks, 5 Natural Resources Protection Areas (including Flora and Fauna), 3 Natural Monuments, and 11 Biosphere Reserves were established after 1988 (Table 3). They represent only 17.6% of the number (though roughly 74% of the extent) of the federal areas traditionally considered to

Table 3. Mexican protected areas legally in the SINAP (i.e., established after the General Environmental Law of 1988)

Name (State)	Extent (ha)
<b>Biosphere Reserves</b>	
Desierto de Vizcaíno (Baja California Sur)	2,546,790
Calakmul (Campeche)	723,185
Lacantún (Chiapas)	61,873
Pantanos de Centla (Tabasco)	302,706
Yum Balam (Quintana Roo)	154,052
Sierra de la Laguna (Baja California Sur)	112,437
El Pinacate y Gran Desierto de Altar (Sonora)	714,556
Alto Golfo de California y Delta del Río Colorado (Sonora & Baja California Sur)	934,756
El Triunfo (Chiapas)	119,177
Chamela-Cuixmala (Jalisco)	13,142
Sierra del Abra-Tanchipa (San Luis Potosi)	21,464
<b>Flora and Fauna Protection Areas</b>	
Laguna de Términos (Campeche)	705,016
Chan-Kin (Chiapas)	12,185
Corredor Biológico Derrame del Chichinautzin (Morelos)	37,302
<b>Marine National Parks</b>	
Sistema Arrecifal Veracruzano (Veracruz)	52,239
Arrecife Alacranes (Yucatan)	333,768
<b>National Park</b>	
El Tecuán (Durango)	1,000
<b>Natural Monuments</b>	
Yaxchilán (Chiapas)	2,621
Cerro de la Silla (Neuvo Leon)	6,045
Bonampak (Chiapas)	4,357
<b>Natural Resources Protection Areas</b>	
Archipielago Revillagigedo (Federal)	636,685
Las Huertas (Colima)	167

have been part of SINAP. They cover much less than 3.7% of Mexico's territory (given that some are marine and national waters and continental shelf are not accounted for in deriving this percentage).

This legal clarification, which might seem like a futile mental exercise, is on the contrary a very serious matter. The flaw in the 1988 legislation implies that unless the remaining federal units are established again through a new presidential decree, they have no legal protection. As anyone can understand, this action requires a top priority that, it is to be hoped, the newly created National Council for Protected Areas will recognize and recommend.

Another legal aspect worth mentioning is that, as part of the modernization crusade for rural areas that the former federal administration undertook, Constitutional Article 27 was reformed (decree of January 6, 1992). It establishes new forms of production and of association for production. The objective, as the decree states, is to promote and favor investment in rural areas in the hope that this will translate into a source of wealth and well-being for the peasants and *campesinos*.

These reforms enable the actual alienation of property of the formerly

untouchable community land-tenure regime called *ejido*. Now, new arrangements between *ejidos* can be explored, they can incorporate or make new associations, allow the use of their land to a third party, or even continue their current situation. This means that part of the land of the *ejidos* can be bought or rented, making national and foreign investments feasible on *ejido* land. Even commercial enterprises can own rural land now. Naturally, this reform will have implications for protected areas which have not been fully felt yet.

In December 1994 the Ministry of the Environment, Natural Resources, and Fisheries (SEMARNAP, the Secretaría de Medio Ambiente, Recursos Naturales y Pesca) was created. This is a clear reflection of the present federal government's interest in incorporating ecological criteria into development schemes along with the economic, social, and political criteria commonly used. SEMARNAP has established as its major task the promotion of the "transition towards sustainable development." SEMARNAP's responsibilities include wildlife (flora and fauna), forests, fisheries, and the administration of all federal protected areas.

The ministry's priorities with respect to protected areas are to:

- Re-classify them, perhaps following IUCN's categories;
- Define priorities (both areas and actions);
- Decentralize administration, following local and regional interests;
- Terminate certain areas;

- Promote co-management and co-responsibility by encouraging the involvement of the private, social, and academic sectors;
- Foster mechanisms for management to achieve self-maintaining status; and
- Perhaps create an independent administrative body over the long run.

SEMARNAP has also begun establishing the National Council on Protected Areas by inviting a select group to join it. The Council's profile is primarily of a technical nature and the hope is that it will generate policies, recommendations, and even a national strategy that government entities may then follow. In addition, protected areas recently have been recognized as the backbone of the governmental biodiversity conservation strategy. These two events—the creation of the Council and the recognition of role protected areas can play—are perhaps the most encouraging recent developments. They bring some hope for an emergence of a new era for protected areas in Mexico.

The efficiency of a system is limited if there is a defined centralism and very little or no local decision-making and implementation capacity. In this sense, the federal government has historically allowed only very little participation from local governments, communities, or organized citizens. This condition probably will change in the near future given the new open attitude that is steadily penetrating governmental structures at different levels. If a change in this direction does not take place, we will face more serious limitations in the proper operation of the Mexican System.

There is a glaring lack of planning in the field of protected areas in Mexico. No specific and appropriate criteria for selection or ranking priorities are applied that would guarantee them to be truly representative. Many of the areas remain as parks on paper, far from being properly managed. Rather, in many cases they are constantly plundered and irreversibly deteriorated. The oblivion in which many areas are left is evident also in the lack of resources—human, material, and financial—that they are allotted, and in the multiple problems of operation and management.

Although in Mexico there are no specific research or training programs designed for natural protected areas, a few efforts have taken place, primarily in the biosphere reserves (old, new, and proposed). For the El Triunfo Biosphere Reserve in Chiapas, for example, social and economic surveys were conducted along with basic studies on vegetation, the distribution and abundance of endangered and non-endangered species, inventories of wild flora and fauna and of domestic animals and cultivars, land tenure studies, and so forth. They were the basis for the proposal submitted to the authorities for El Triunfo's formal establishment, and also served as the framework for all the planning, operation, and management of the area. There are a few other examples as well.

The increase in nominally protected land area and in the number of conservation units has simply happened; it is not the result of a well-thought-out, coherent national strategy. The growth was merely driven by opportunities, political convenience, some degree of imitation, and a certain inertia or momentum. Institutional and even individual preferences have also shaped the system, as has (exceptionally) the pressure exerted by both radical environmental groups and mainstream conservation organizations, including research centers and universities. As a result of this diverse origin and evolution of the areas, the so-called System is inadequate and therefore must undergo major surgery, with bad tumors removed and new organs and units transplanted.

As another result of this confusing evolution, the owners of land lying within the boundaries of most of the protected areas have not been compensated and still continue development activities that destroy the natural ecosystems (e.g., legal and illegal use of resources, hunting and poaching, deforestation, extraction of materials). On the other hand, oftentimes tracts of land have been incorrectly allotted to *ejidos* or communities regardless of being part of previously established protected areas. This situation brings about a number of additional problems, such as the increase in irregular and dispersed human settlements, immigration, clearings, provision of goods and services (electricity, drinking water,

food, roads), rubbish dumps, and a list of others you can imagine. It can even be a cause of social unrest, as the recent uprising in Chiapas by the EZLN made evident.

The federal government has openly announced its interest in fostering a shift in its approach towards protected areas. The new approach stems from the sincere realization of its lack of capacity to manage the System and calls for the participation of all sectors of society. In particular, the private sector has been invited to invest as concessionaires and take an active role in protected areas. I should point out, however, that the hook—improperly baited, in my opinion—has not been bitten yet by any sector.

Major decisions and crucial definitions as to the degree, extent, and nature of such participation must be made. Moreover, radical legal changes have to take place before the private and social sectors can participate. Undoubtedly, collaboration between various sectors is badly needed and should be explored. Although there are a few exceptions, in general neither the private nor the NGO sector has the capacity to engage in such a venture. A major question remains unanswered, however: Will the government actually allow full responsibility for an area to be given to, say, a private consortium? History has shown the opposite to now. Many other controversies, debates, and questions come to mind just with the thought of how this collaboration might take place.

International collaboration and cooperation in the establishment and management of some natural areas in Mexico has been very useful, given that it has enabled continuity of projects in many of them. Such as been the case in El Triunfo and El Ocote in Chiapas, Calakmul in Campeche, Sian Ka'an in Quintana Roo, and Manantlán in Jalisco, to mention just a few examples. Support has been provided in various ways and has also helped awaken the interest and flow of support from local authorities and people.

Now that the NAFTA is in effect and the Commission on Environmental Cooperation established, the need to foster greater cooperation among Mexico, the USA, and Canada has been recognized. We believe we should take advantage of the opportunities this new institution will open, to gain from the experiences we can share.

The traditional concepts of protected areas as followed in Mexico have grown old and impractical. The areas failed to protect resources and, even worse, failed to be properly valued by locals or considered a worthy national investment. By searching for innovative approaches and through gained knowledge and experience, new theories and schools of thought have emerged throughout the world, and their impact on Mexican protected areas is to be expected, in terms of economics, legislation and regulations, management, innovative institutional arrangements, operation, establishment, priority ranking,

planning, and design.

The National Council on Protected Areas will be given the responsibility for overseeing and providing significant input on the long-expected but still non-existent National Plan for Protected Areas. Drawing from the most updated information both nationally and internationally, the plan must clarify the expected mission, goals, rationale, and priorities for the System, in terms of budget allocation, representativeness and ecological significance, critical areas, and other major issues and topics. In the process of producing such a document, the Council will make its recommendations with respect to the need to identify new areas that should be incorporated into the System, as well as those that must be taken out.

The government, through the Council, should acknowledge and take advantage of the leading efforts in producing a comprehensive study of the current state of all protected areas in the country. This study must constitute the framework of a new System and must also be regarded as the starting point of the Council and as a tool to foster international and regional cooperation and understanding.

Perhaps one of the greatest needs is that all the tasks inherent to identifying, selecting, recategorizing, formally establishing, ranking, evaluating, monitoring, operating, and managing the natural protected areas of Mexico must be professionally conducted. As long as the necessity for



this professional activity is not recognized with the seriousness and respect it deserves, improvisation will continue and mistakes will be made, some of which will be hard to amend and which oftentimes will have severe repercussions and irreversible effects. The era of empiricism and improvisation in relation to protected areas must be left behind. It cannot be justified in the case of Mexico nor in any other place.

The imbalance between the

magnitude of the challenge, and the meager efforts devoted to cope with it, prevails. The accomplishments are still very little compared with the task ahead. The National Council on Protected Areas, along with the growing interest of private, academic, and social entities to participate, give us some hope. Things might change for protected areas in the near future. Nevertheless, it is fair to say that the future of the protected areas in Mexico is uncertain.



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