

**Programa Ambiental Regional para Centroamérica (PROARCA)
Central American Protected Areas System (CAPAS)
Comisión Centroamericana de Ambiente y Desarrollo (CCAD)
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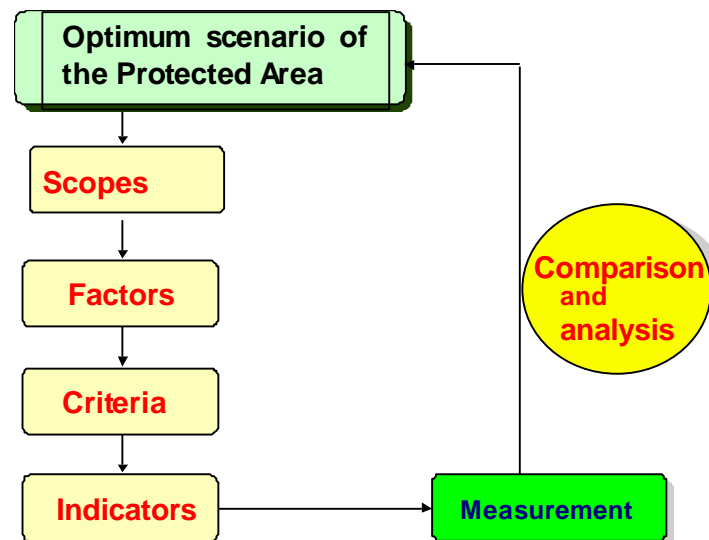
INTRODUCTION

This strategy was developed during a workshop organized and carried out in Tegucigalpa, Honduras, by PROARCA/CAPAS (Programa Ambiental Regional para Centroamérica/Central American Protected Area System), in coordination with the Executive Secretariat of the Central American Council of Protected Areas and Forests (CCAB-AP).

The principal objective of the workshop was to develop the components of a monitoring strategy for Central American protected areas. This tool should fulfill some basic requirements that were agreed upon at the beginning of the event. These requirements included: simplicity, low cost, short time necessary for generating data and that excellent management of protected areas would be promoted. Due to the lack of a tool of this kind, once it was validated in the field, it should be adopted at the regional level as a monitoring strategy for Central American protected areas.

The workshop consisted of participatory sessions where different components were developed for the monitoring strategy of Central American protected areas. Moreover, special attention and detail was given to the component of criteria and indicators.

The strategy generated as a product of the workshop contains the following components: the desired scenario for the protected area, areas of analysis, factors that characterize each area, the criteria for each factor, and the indicators for each criteria. These components are related to each other in the following way:



Conceptually the strategy is based on the method developed by The Nature Conservancy (TNC) known as “Scorecards: Consolidation Criteria”. This method has been applied in protected areas of Latin America included within the Endangered Parks Program of TNC for two consecutive years and has proved to be very simple in its application, yet valuable for the information generated and the comparability of that information across time, which is a very important factor for monitoring. On the other hand, the strategy has benefited from the conceptual contribution and experience of the Central American professionals participating in the workshop.

The monitoring strategy has been validated in different pilot protected areas in Central America. In Costa Rica it was initially applied to the Volcán Poás National Park, the Volcán Irazú National Park, the Braulio Carrillo National Park, the Guayabo National Monument, and the Grecia Forest Reserve. In Guatemala it was applied in the Cerro San Gil. In Honduras it was applied once in the Río Plátano Biosphere Reserve. In Panama it has been applied in various protected areas. In El Salvador it was applied in the Montecristo National Park. In Belize it was applied in the protected areas managed by the Belize Audubon Society such as Crooked Tree and the Cockscomb Wildlife Sanctuaries. Moreover, the strategy has been adopted at a national level in Costa Rica for all its protected areas. Panama will also be adopting this strategy at a national level.

Many people, especially officials from the protected areas of different Central American countries, have reviewed, analyzed and improved the present strategy during the different measurement sessions that have been carried out. PROARCA/CAPAS offers an effusive thanks to all of those persons that have dedicated time and interest for the improvement of the management of Central American protected areas.

BACKGROUND

The monitoring of biological, social and management factors is extremely important in any protected area. Ecosystems, communities, fauna and flora suffer habitat fragmentation and other negative impacts as a result of human activities, within and without of protected areas. As these impacts increase, monitoring of the biotic and human communities is needed to detect changes across time. Monitoring represents a "barometer" that allows one to measure change. At the same time, these measurements support decisionmaking and allow for an improved conservation of the protected areas.

The Central American countries do not have systematic monitoring programs for their protected areas. In the same way, information that could support the establishment of monitoring strategies is fragmented, out of date, lacking in scientific rigor or simply non-existent. To this we can add the lack of technical personnel trained in the protected areas and the lack of an institutional culture concerned with investigation. Finally, the situation gets worse in those cases where the budgets of the protected areas are very reduced.

The Fourth World Congress on National Parks and Protected Areas held in Caracas, Venezuela in 1992 recommended the following:

- *Monitoring programs of the protected areas are an important element in the environmental management of a region.*
- *Coordinated and comprehensive research, and monitoring programs are essential and urgently required. To administer protected areas properly it is also vital to conduct research on the structure of the human community, including an analysis of resource use, utilization of manual labor, gender roles, age structures and economic conditions.*

Thus, obtaining and organizing information related to natural and change processes in a protected area is extremely important for the person making decisions. Any activity that is carried out within a protected area should be monitored to prevent negative impacts on natural and cultural resources, and also to maximize positive changes. The administrators of protected areas normally recur to the option of using "intuition" and experience for making decisions. However, administrative actions based solely on intuition and experience can be very imprecise, inconsistent, lacking in support and difficult to analyze.

In PROARCA/CAPAS, as part of our work plan, we hope to make a contribution given this increasing interest in the monitoring of protected areas. Thus, following is the presentation of a monitoring strategy for protected areas in Central America.

This proposal tends to complement already existing efforts which it is hoped will be improved over time.

The principal characteristics of this strategy are defined as:

a. *Simplicity*

It is very simple to use. It does not require very specialized technology or training. The average person working in protected areas can use it.

b. *Low cost*

The procedure does not require a great investment of equipment or time, which makes it very attractive for protected areas in Central America due to the obvious logistical and economic limitations.

c. *With the capacity to improve*

It presents the appropriate form for being improved and evolving as it is used. New criteria and indicators can be developed for refining the existing ones and for covering spaces that are missing.

d. *Applicability*

In spite of the fact that the protected areas of Central America present obvious differences with respect to ecosystems, management and the level of development, the present method can be applied to them as well.

e. *Promotion of excellence in the conservation of protected areas*

The application of this method over time (monthly, quarterly, semi-annually or annually, for example) allows for management efforts of a protected area can be improved over time. In a direct way, by improving the quality of indicators, the protected area will improve its conservation. At the same time, it allows the area to put into evidence all its management efforts and the information can be utilized by decision-makers at the highest level. This documentation of the efforts of successful management of a protected area is key to developing an institutional memory around said area. Permanent monitoring, thus, will help the protected area to document the management that has been provided across time. The existence of an institutional memory of the management of the area is extremely valuable for its future management.

First Part: The Structure

Structurally the strategy is divided in the following way:

Areas	Factors	Criteria	Indicators
Social	Communication	Communications in the protected area	<p>5= A communications plan exists and is in operation, it is evaluated and is oriented to have a significant impact in the target population</p> <p>4= The plan has been executed and its impact on the target population has been evaluated</p> <p>3= Sufficient technical know-how, equipment and materials exist to execute the communications program</p> <p>2= Communications needs have been identified, or isolated actions have been taken</p> <p>1= A communication plan does not exist, nor have isolated actions been taken</p>
	Participation	Participation	<p>5= The interest groups participate completely in all aspects of the planning, management and decision-making of the protected area</p> <p>4= The interest groups participate in the planning and management of the protected area (but not in the decision-making)</p> <p>3= The interest groups participate in some planning activities of the protected area</p> <p>2= The interest groups have made clear their availability to participate and the protected area's administrators have consulted with the interest groups</p> <p>1= The interest groups do not participate in the planning and management of the protected area; decision-making is centralized</p>
	Land Tenure	Information on the status of land tenure	<p>5= Information on land tenure is available (and mapped-out) and is used constantly to negotiate the adequate management of the protected area with a minimum level of conflict</p> <p>4= Information on land tenure is available (and mapped-out) and is used partially in the administration of the protected area</p> <p>3= Information on land tenure is available in the protected area but is not used to resolved related conflicts in the protected area</p> <p>2= Information on land tenure exists, but is dispersed and access to it is difficult</p> <p>1= Information on land tenure does not exist; it is identified as a relevant issue</p>

Areas	Factors	Criteria	Indicators
	Communication	Education Plan	5= An environmental education plan is carried out and its impact is evaluated regularly 4= Parts of an environmental education plan are carried out 3= An environmental education plan exists, but has not been implemented due to a lack of resources 2= An environmental education plan has been designed 1= An environmental education plan does not exist.
	Visitors management	Visitor satisfaction	5= 90% of visitors to the protected area are very satisfied with the services and with their experience 4= More than 75% of the visitors to the protected area are very satisfied with the services and their experience 3= More than 50% of the visitors to the protected area are very satisfied with the services and their experience 2= More than 25% of the visitors to the protected area are very satisfied with the services and their experience 1= Less than 25% of the visitors of the protected area are very satisfied with the services and their experience
Administration	Infrastructure	Internal Access to the Protected Area	5= 100% access for the integral management of the area 4= 75% access for the integral management of the area 3= 50% access for the integral management of the area 2= 25% access for the integral management of the area 1= Internal access for the integral management of the area does not exist
		Equipment	5= 100% of ideal equipment for the efficient management of the protected has been acquired 4= 75% of the equipment for high-priority management activities has been acquired 3= 50% of ideal equipment has been acquired 2= 25% of ideal equipment has been acquired 1= No equipment exists
		Equipment maintenance	5= All equipment of the protected area is maintained. 4= 75% of the equipment of the protected area is maintained. 3= 50% of the equipment of the protected area is maintained. 2= 25% of the equipment of the protected area is maintained. 1= There is no maintenance of the equipment of the protected area.

Areas	Factors	Criteria	Indicators
		Installations	5= 100% of the physical infrastructure necessary for the basic management of the area has been constructed 4= 75% of the physical infrastructure necessary for the basic management of the area has been constructed 3= 50% of the necessary physical infrastructure has been constructed, but significant gaps exist 2= 25% of the physical installations have been constructed 1= Physical installations necessary for the basic management of the area have not been constructed
		Maintenance of the physical installations.	5= All installations of the protected area are maintained. 4= 75% of the installations of the protected area is maintained. 3= 50% of the installations of the protected area is maintained. 2= 25% of the installations of the protected area is maintained. 1= Maintenance of the installations of the protected area does not exist.
		Rotations	5= 100% of the required signs for the protected area have been put into place 4= 75% of the required signs for the protected area have been put into place 3= 50% of the required signs for the protected area have been put into place 2= 25% of the required signs for the protected area have been put into place 1= Signs do not exist in the protected area.
		Quantity of personnel	5= 100% of the necessary personnel for the basic administration of the area are employed 4= 75% of the necessary personnel for the basic administration of the area are employed 3= 50% of the necessary personnel for the basic administration of the area are employed 2= 25% of the necessary personnel for the basic administration of the area are employed 1= No personnel for the administration of the area have been employed

Areas	Factors	Criteria	Indicators
		Training level	5= 100% of the personnel is trained to carry out their functions 4= 75% of the personnel is trained to carry out their functions 3= 50% of the personnel is trained to carry out their functions 2= 25% of the personnel is trained to carry out their functions 1= Personnel have not received training specific to enable them to carry out their functions
		Level of personnel satisfaction	5= 100% of the personnel is satisfied with their working conditions in the protected area 4= 75% of the personnel is satisfied with their working conditions in the protected area 3= 50% of the personnel is satisfied with their working conditions in the protected area 2= 25% of the personnel is satisfied with their working conditions in the protected area 1= Less than 25% of the personnel is satisfied with their working conditions in the protected area
		Stability of personnel	5= No protected area personnel rotation in the last five years 4= Rotation of 25% of the personnel in the last five years 3= Rotation of 50% of the personnel in the last three years 2= Rotation of 75% of the personnel in the last year 1= Rotation of 100% of the personnel in the six months
		Volunteers in the protected area	5= A volunteer program that responds to the management needs of the protected area has been established and implemented 4= A volunteer program exists, but has not been followed up on nor evaluated 3= A volunteer program has been designed and mechanisms for its operation have been identified 2= Sporadic volunteer participation exists 1= Volunteers are needed but initiatives for the creation of a volunteer program do not exist

Areas	Factors	Criteria	Indicators
	Planning	Management Plan	5= Management plan designed, implemented and up-to-date 4= Management plan designed and implemented for some of the area's programs 3= Management plan designed but not implemented 2= Management plan being elaborated 1= No management plan exists
		Operational Planning	5= An operating plan is being implemented in agreement with the management plan 4= An operating plan is being implemented in agreement with some of the activities established in the management plan 3= An operating plan is being implemented but without basis in the management plan 2= An operating plan is being elaborated 1= No operating plan exists
		Zoning	5= Zoning that responds to the management plan 4= Technically-sound zoning that allows effective administration of the area 3= Zoning that leads to less-effective administration 2= Zoning that limits the administration of the area 1= No zoning exists
		Threat Analysis	5= Threat analysis mechanism has been prepared; threats are identified, prioritized and dealt with through management actions 4= Threats identified and prioritized; management actions for certain threats have been carried out 3= Threats identified and prioritized; management actions for threats have not been carried out 2= Threat analysis has begun 1= No threat analysis exists

Areas	Factors	Criteria	Indicators
NATURAL AND CULTURAL RESOURCES	Use	Types of use	<p>5= Use compatible with the objectives of the area takes place, and is growing with accordance with the management plan</p> <p>4= Use compatible with the objectives of the area takes place and is stable</p> <p>3= Use compatible with the objectives of the area takes place but does not follow the regulations established in the management plan</p> <p>2= Use compatible with the objectives of the area takes place but is on the decline</p> <p>1= There is not use compatible with the objectives of the area</p>
		Types of use	<p>5= There is no use incompatible with the objectives of the area</p> <p>4= There is use incompatible with the objectives of the area but it is on the decline</p> <p>3= There is use incompatible with the objectives of the area and it is stable</p> <p>2= There is use incompatible with the objectives of the area</p> <p>1= There is use incompatible with the objectives of the area and it is on the rise</p>
		Impact of use on the natural resources of the protected area	<p>5= Negative use impacts on natural resources in less than 25% of the protected area</p> <p>4= Negative use impacts on natural resources in 25% of the protected area</p> <p>3= Negative use impacts on natural resources in 50% of the protected area</p> <p>2= Negative use impacts on natural resources in 75% of the protected area</p> <p>1= Negative use impacts on natural resources in 100% of the protected area</p>
		Impact of use on the neighboring communities of the protected areas	<p>5= Negative use impact in less than 25% of the communities</p> <p>4= Negative use impact in 25% of the communities</p> <p>3= Negative use impact in 50% of the communities</p> <p>2= Negative use impact in 75% of the communities</p> <p>1= Negative use impact in 100% of the communities</p>

Areas	Factors	Criteria	Indicators
			5= Positive use impact in 100% of the communities 4= Positive use impact in 75% of the communities 3= Positive use impact in 50% of the communities 2= Positive use impact in 25% of the communities 1= Positive use impact in less than 25% of the communities
	Protection	Vigilance plan	5= A vigilance plan exists and is applied in its totality 4= A vigilance plan exists and is applied in its majority 3= A vigilance plan exists and is applied partially 2= No vigilance plan exists but systematic security actions are taken 1= No vigilance plan exists and no orderly security actions are taken
		Impact of the vigilance plan	5= No illegal actions or prohibited activities take place 4= Illegal actions or prohibited activities are very infrequent 3= Illegal actions or prohibited activities take place sporadically 2= Illegal actions or prohibited activities seldom take place, though are regular 1= Illegal actions or prohibited activities are not controlled
		Demarcation of boundaries	5= Boundaries of the protected area are legally defined and completely demarcated in the field 4= Boundaries of the protected area are not legally defined but are completely demarcated in the field 3= Boundaries of the protected area are legally defined and partially demarcated in the field 2= Boundaries of the protected area are legally defined but without any demarcation in the field 1= Boundaries of the protected area are not legally defined nor are they legally demarcated in the field
	Knowledge	Research program	5= A structured research program appropriate to the needs of management exists 4= A structured research program exists, but is not very appropriate to the needs of management and only a few actions have been implemented 3= No research program exists, though research adequate to the needs of area management does take place 2= No research program exists, and research that does take place has little relevance to the needs of management 1= No research program exists, and no research is carried out

Areas	Factors	Criteria	Indicators
		Administration of research	5= Research regulation exists and follow-up regularly takes place 4= There is no established research regulation, but follow-up does take place 3= Research regulations exist but follow-up is not common 2= Research is regulated but is not followed up on 1= There is neither research regulation nor follow-up
		Organization of information	5= There is a very functional system to register a wide array of information, using technological resources. 4= There is a simple system to register the information which is sufficient to aid in the administration of the protected area 3= A partial, unordered system to register information exists, with minimal functionality 2= A poorly designed, unordered and incomplete system to register information exists 1= There is no system to register information
	Environmental monitoring	Species indicators	5= The species indicators of the ecosystem of the protected area are identified using scientifically-valid information, and information about these ecosystems is available to field personnel 4= Some of the species indicators of the protected area are identified and little information is available for field personnel 3= Efforts have been made to identify the species indicators in the protected area and to provide information for field personnel 2= Previous research documents concerning the species indicators of the protected area exist 1= No information about the species indicators of the protected area exists
		Connectivity of the protected area	5= The current and potential connectivity of the protected area as been evaluated and is well-documented 4= The current connectivity of the protected area has been evaluated and is in the process of being documented 3= The current connectivity of the protected area has been evaluated 2= The current connectivity of the protected area is in the process of being evaluated 1= No information concerning the connectivity of the protected area exists

Areas	Factors	Criteria	Indicators
		Non-biotic factors	<p>5= Data exist for more than five years on the principal non-biotic factors of interest for the protected area</p> <p>4= Data exist for less than five years on the principal non-biotic factors of interest for the protected area</p> <p>3= Some data exist on the principal non-biotic factors of interest for the protected area</p> <p>2= Efforts have begun to collect data on the principal non-biotic factors of interest for the protected area</p> <p>1= No information exists on the principal non-biotic factors of interest for the protected area</p>
Political-Legal	Legal Framework	Legal status of the protected area	<p>5= Official declaration at the highest level of the existence of the protected area, fully recognized</p> <p>4= Official declaration of the existence of the protected area, but not at the highest level</p> <p>3= Proposals for the declaration of the protected area in process</p> <p>2= Proposals exist to declare the protected area, but the process has not begun</p> <p>1= Neither an official declaration nor any proposal exists that would promote such a wildlife area</p>
		Application of the law	<p>5= Appropriate legal procedures for the enforcement of the law exist and all those responsible for their execution have full knowledge of them</p> <p>4= Adequate legal procedures exist; many of those responsible know the law; programs to aid improvement exist</p> <p>3= Legal procedures exist; but they are not 100% adequate nor are they fully known by those responsible for carrying them out; programs to aid improvement exist</p> <p>2= Insufficient procedures exist and are poorly understood by those responsible; programs to aid improvement do not exist</p> <p>1= Legal procedures for the enforcement of the law do not exist</p>

Areas	Factors	Criteria	Indicators
	Institutional framework	Administrative autonomy of the protected area	<p>5= The protected area has authority over its administrative and technical affairs</p> <p>4= The protected area has full authority over its administrative affairs but not over its technical affairs</p> <p>3= The protected area has authority over its administrative affairs but sometimes should consult with the central office</p> <p>2= The protected area should consult frequently with the central and regional office concerning its administrative decisions</p> <p>1= The protected area does not have any authority over its administrative decisions</p>
		Interorganizational relations	<p>5= Agreements in effect with the organizations; relations with more than 75% of the involved organizations with active projects</p> <p>4= Relations with 75% of the involved organizations with active projects; actions being undertaken</p> <p>3= Relations with 25 to 50% of the involved organizations with active projects</p> <p>2= Relations with less than 25% of the involved organizations with active projects</p> <p>1= No inter-organizational relations exist</p>
Economic-financial	Self-sufficiency	Financing plan	<p>5= There is a long-term financing plan, there are functioning financing mechanisms, and income is sufficient for management of the area</p> <p>4= There is no long-term financing plan, there are functioning financing mechanisms, but income is sufficient for management only in the short-term</p> <p>3= There is no long-term financing plan, there are functioning financing mechanisms, but income is insufficient for management</p> <p>2= There is no long-term financing plan, there are some financing actions, and income is insufficient</p> <p>1= There is no long-term financing plan and there are no functioning financing mechanisms</p>
		Availability of money	<p>5= The protected area has available the money that it generates and can cover 100% of the investment that it needs</p> <p>4= The protected area has available the money that it generates and can cover 75% of the investment that it needs</p> <p>3= The protected area has available the money that it generates and can cover 50% of the investment that it needs</p> <p>2= The protected area has available the money that it generates and can cover 25% of the investment that it needs</p> <p>1= The protected area does not have available the money that it generates</p>

Areas	Factors	Criteria	Indicators
	Production of goods and services	Identification of goods and services	<p>5= The protected area has identified and valued the goods and services that it produces</p> <p>4= The protected area has identified the goods and services and 75% of them have been valued</p> <p>3= The protected area has identified the goods and services and 50% of them have been valued</p> <p>2= The protected area has identified the goods and services and 25% of them have been valued</p> <p>1= The protected area has not identified its goods and services</p>
		Perception of the value of goods and services	<p>5= More than 75% of the interest groups recognize the goods and services of the protected area</p> <p>4= Between 50 and 75% of the interest groups recognize the goods and services of the protected area</p> <p>3= Between 25 and 50% of the interest groups recognize the goods and services of the protected area</p> <p>2= Less than 25% of the interest groups recognize the goods and services of the protected area</p> <p>1= The interest groups do not recognize the goods and services of the protected area</p>
	Benefits	Sources of direct benefits	<p>5= More than 75% of the interest groups receive some type of direct benefit</p> <p>4= Between 50 and 75% of the interest groups receive some type of direct benefit</p> <p>3= Between 25 and 50% of the interest groups receive some type of direct benefit</p> <p>2= Less than 25% of the interest groups receive some type of direct benefit</p> <p>1= The protected area has not generated any type of direct benefits for the interest groups</p>

Second Part: The Monitoring Strategy

I. Basic Principles of the Monitoring Strategy

The following basic principles represent the basis for the monitoring strategy of the protected areas.

1. The monitoring strategy seeks to promote a greater level of excellence in the management of protected areas in Central America.
2. The definition of an optimal scenario for the efficient management of the protected area is a very important step that defines the most necessary aspects for achieving excellence in management. This scenario would represent the ideal situation against which can be compared the value of the real situation of the area.
3. The optimal scenario would be given according to the management plan.
4. In the absence of a management plan, annual operational plans could be a point of departure for establishing the optimal scenario.
5. In any case, including in the absence of operational plans, consultations with the personnel of the area at all levels would permit the construction of the scenario.
6. The measurement of indicators should be quantitative for the purpose of permitting comparisons.
7. The level of development which one hopes achieve is that designated by the indicators or the group of indicators that deserve the highest rating in the scale.
8. The procedure is not one of absolute nor normative application. It establishes basic criteria and is flexible so that it can be adjusted to the development conditions of each area. It depends on the knowledge, capacity of the evaluation teams, financing and availability of information.
9. The measurements and follow-up to monitoring should be carried out by a permanent monitoring team.
10. It is recommended that the measurements of the indicators be carried out at least every six months. This should allow one to note significant changes.
11. In case there is some indicator that is not applicable to a protected area, it should not be assigned a rating, but rather a detailed justification should be attached.

II. The Optimal Scenario for the Protected Area.

The optimal scenario for the protected area is defined as the detail of a “vision” of the area. This vision is defined toward where the area is going within a determined period of time, expressed in years.

Once the monitoring team of the protected area has defined the level of compliance of all the indicators, it is necessary to carry out an exercise in which the optimal scenario is defined. Ideally, this exercise would be comprised of a work session involving all persons who participate in the planning and decisionmaking of the protected area. The exercise should be directed by the monitoring team of the area.

Some indicators do not need much detail for including them in the optimal scenario. For example, the existence of an actual management plan that is being implemented implies very obvious actions that do not require much detail. On the other hand, to have personnel for the basic management of the area requires that, in the optimal scenario, actual personnel are listed in detail, and that it is analyzed what other personnel would be necessary for the activities that are not normally carried out, in order to offer basic management (how many persons, what posts, and what activities need to be held, for example.) This is equally important for the equipment necessary for basic management (how many shovels, machetes, radios for communication, etc.) For the optimal scenario it is necessary to review the existing inventory and analyze what equipment is missing for complying with the basic activities of management.

Thus, the optimal scenario can include a detailed description in a narrative form or in a table format with details of the optimal scenario for each indicator. This detailed description should be accompanied by a table where each indicator is presented and the goal proposed to be complied with after a period of time. The table for presenting the optimal scenario should include columns for disaggregating the levels of each indicator that will be complied with every year of the proposed plan. For example, with a horizon of 5 years, to acquire 100% of the equipment for the basic management of the area, it is prudent to plan it in a scaled manner: how much of the equipment will be acquired in every year during the five years? See Table #1.

In the same way, the optimal scenario can be defined for each indicator as the maximum ranking of that indicator, that is, the ranking of 5, which would be the ideal condition to achieve in a specified time.

**Table # 1 Optimal scenario for five years in a protected area
(Illustrative example)**

Indicator/ Time	Year 1	Year 2	Year 3	Year 4	Year 5
Equipment	25% of the acquired equipment: 3 shovels, 2 machetes, one radio, one vehicle, etc.	50% of the equipment acquired: a slide projector, a boat, an outboard motor, etc.	75% of the acquired equipment: a computer with printer, 5 binoculars, field guides for birds, plants, etc.	Etc	Etc

Once there is a detailed description and table, this should be considered the optimal scenario against which one will continue monitoring the indicators of the protected area.

III. The Monitoring Team of the Protected Area

It is highly recommended that the protected area have a permanent monitoring team. This team will be in charge of organizing the monitoring sessions as well as ensuring that the protected area has the necessary evidence for reviewing each indicator and providing the necessary follow-up for the results of each measurement.

The follow-up implies taking notes and organizing (in tables and graphs) the results of all of the respective measurements in its protected area, carrying out comparisons of the indicators across time and reporting the results to whom it may concern.

Ideally the monitoring team will be composed, at a minimum, of persons in charge of programs, processes or activities within the protected area, the person in charge of the direction of the area, representatives of NGOs that work in the area and a representative person of the national system of protected areas of the country. This work team should be broadly participatory and permanent such that the follow-up is constant.

At the same time, it is important that the members of the team understand the monitoring strategy and the process for its application. For this one can consider a training session for the team or at least for two of its members.

IV. The Monitoring Session of the Protected Area.

The monitoring session will be organized by the monitoring team of the protected area. In addition to the team, any person that can offer opinions and ideas that would enrich knowledge about the management of the area within the time period that is being evaluated should be invited.

For this session it is important to have an entire day available for working. The monitoring team should assure themselves that the participants in the session can arrive at the meeting site on time. The work materials and evidence should be read and reviewed in advance. One person from the monitoring team should facilitate the work session such that order is kept and that time is taken advantage of to the maximum.

The work session should begin with a review of the results of the last monitoring session and of the optimal scenario of the area. If it is the first session, this can begin with a discussion of the process to follow and of the previously defined optimal scenario. Then each one of the indicators should be reviewed using the forms from the “**Form for Field Reports for the Monitoring of Protected Areas,**” the evidence for each indicator and the optimal scenario for comparing and evaluating. For each indicator, once the current situation has been discussed, a ranking on the current scale should be assigned. In case it is the first monitoring session, the results should be considered as the baseline for the protected area.

After having reviewed and assigned rankings for all of the indicators, one can close the work session with a brief discussion about the status of the protected area and the steps to follow to improve its management.

V. Aspects of the Monitoring Strategy

1. SOCIAL ASPECT

This aspect considers the concept that the protected area should communicate with interest groups associated with it and have them participate in planning, management, and decision-making.

a. COMMUNICATIONS FACTOR

The planned, organized communication between the protected area and its corresponding interest groups is of great importance.

a.1 *Criterion of willingness to communicate by the protected area*

This criterion considers the preparation and execution of the communication plan and the measurement of its impact.

INDICATOR: Communications plan of the protected area, executed and evaluated.

Justification of the indicator:

The basic idea for this indicator is that the protected area should have a communications plan to efficiently disseminate truthful information about its management, species and ecosystems. At the same time, it is important that the impact caused by this program be accurately measured. It is of vital importance that appropriate methods of communication with the protected area's interest groups be established.

Measurement of the indicator:

The indicator is measured by comparing the initial optimum scenario against the condition of this component of the protected area at the moment of measurement. This condition refers to the existence or absence of a communication plan and its operation. The measurement of the indicator is based on the following scale:

5= A communications plan exists and is in operation, it is evaluated and is oriented to have a significant impact in the target population

4= The plan has been executed and its impact on the target population has been evaluated

3= Sufficient technical know-how, equipment and materials exist to execute the communications program

2= Communications needs have been identified, or isolated actions have been taken

1= A communication plan does not exist, nor have isolated actions been taken

b. PARTICIPATION FACTOR

b.1 Participation criterion

The participation of the interest groups corresponding to a protected area promotes the principle of democratic management.

INDICATOR: Participation of the interest groups

Justification of the indicator:

The protected area should guarantee spaces and mechanisms that permit the participation of the interest groups in its management, planning and decision-making, with the goal of guaranteeing its future success.

Measurement of the indicator:

This indicator can be measured with methods of varying levels of complexity, from the number of planning and decision-making meetings of the protected area in which representatives of interest groups participate, to interviews with the interest groups to measure their perceptions of and their satisfaction with their participation. The measurement of the indicator is based on the following scale:

5= The interest groups participate completely in all aspects of the planning, management and decision-making of the protected area

4= The interest groups participate in the planning and management of the protected area (but not in the decision-making)

3= The interest groups participate in some planning activities of the protected area

2= The interest groups have made clear their availability to participate and the protected area's administrators have consulted with the interest groups

1= The interest groups do not participate in the planning and management of the protected area; decision-making is centralized

c. LAND TENURE FACTOR

c.1 Criterion of information on land tenure

This criterion considers aspects of the state of land tenure and the use of such information in order to influence the management of the protected areas.

INDICATOR: Land tenure in the protected area

Justification of the indicator:

This indicator promotes the idea that the protected area should consider the situation of land tenure within its boundaries and in the event that conflicts exist, it would work to resolve them. In state protected areas, especially, it is fundamental that accurate information on land tenure be available.

Measurement of the indicator:

This indicator can be measured by an investigation of land tenure archives for the protected area (maps, census plans etc.); then this information can be compared over time to measure its improvement. Another important step is to interview the director of the protected area to inquire whether the information on land tenure is being used in decision-making. The measurement corresponds to the following scale:

5= Information on land tenure is available (and mapped-out) and is used constantly to negotiate the adequate management of the protected area with a minimum level of conflict

4= Information on land tenure is available (and mapped-out) and is used partially in the administration of the protected area

3= Information on land tenure is available in the protected area but is not used to resolved related conflicts in the protected area

2= Information on land tenure exists, but is dispersed and access to it is difficult

1= Information on land tenure does not exist; it is identified as a relevant issue

d. EDUCATION FACTOR

d.1 Criterion of the education plan

This criterion refers to the compromise of the protected area to execute a plan for environmental education.

INDICATOR: Environmental education plan for the protected area

Justification of the indicator:

This indicator considers the concept that the protected area should have an education plan that emphasizes environmental issues and that will promote changes of attitude and behavior among members of the interest groups.

Measurement of the indicator:

This indicator is measured by the existence of an environmental education plan, its execution and evaluation. The measurement of the indicator is based on the following scale:

5= An environmental education plan is carried out and its impact is evaluated regularly

4= Parts of an environmental education plan are carried out

3= An environmental education plan exists, but has not been implemented due to a lack of resources

2= An environmental education plan has been designed

1= An environmental education plan does not exist.

e. VISITOR MANAGEMENT FACTOR

e.1 Visitor satisfaction criterion.

This criterion considers the interest of the protected area in recognizing, maintaining and improving the quality of services and the visitors' experience.

INDICATOR: Satisfaction of the visitor to the protected area

Justification of the indicator:

This indicator considers the quality of the services and facilities offered by the protected area, from the point of view of the visitor as a user of the area. Recognizing the importance of services and facilities helps to rationally match supply and demand.

Measurement of the indicator:

This indicator can be measured using surveys, interviews or users' personal comments, gathered by staff or by an investigative team; users might be tourists, local visitors, investigators, students or others. The measurement scale is the following:

5= 90% of visitors to the protected area are very satisfied with the services and with their experience

4= More that 75% of the visitors to the protected area are very satisfied with the services and their experience

3= More than 50% of the visitors to the protected area are very satisfied with the services and their experience

2= More than 25% of the visitors to the protected area are very satisfied with the services and their experience

1= Less than 25% of the visitors of the protected area are very satisfied with the services and their experience

2. ADMINISTRATIVE ASPECT

This aspect takes into account different factors of the protected area such as infrastructure, personnel and planning.

a. INFRASTRUCTURE FACTOR

a.1 Access criterion

INDICATOR: Internal access for the management of the protected area

Justification of the indicator:

This indicator refers to whether the personnel of the protected area have access that permits the integral management of the area.

Measurement of the indicator:

The measurement of this indicator can be achieved by considering access to all the zones of the area and how this permits the integral management of the protected area. By

consulting with the personnel and existing maps to establish the level of internal access to the area should be sufficient to determine whether necessary access is available for the integral management of the area. Using this information, we can assign the following scale:

5= 100% access for the integral management of the area

4= 75% access for the integral management of the area

3= 50% access for the integral management of the area

2= 25% access for the integral management of the area

1= Internal access for the integral management of the area does not exist

a.2 Criterion of staff equipment for the protected area

INDICATOR: Ideal equipment for the management of the protected area

Justification of the indicator:

This indicator refers to how the protected area should count on sufficient, good quality equipment in order to execute the efficient management of the protected area.

Measurement of the indicator:

This indicator can be measured with an analysis of the most recent inventory of the protected area's equipment and compare it with the equipment described in the optimum scenario. At the same time, personnel can be asked to evaluate whether the available equipment is ideal for the management of the protected area. After analyzing the information obtained a rank according to the following scale should be assigned:

5= 100% of ideal equipment for the efficient management of the protected has been acquired

4= 75% of the equipment for high-priority management activities has been acquired

3= 50% of ideal equipment has been acquired

2= 25% of ideal equipment has been acquired

1= No equipment exists

INDICATOR: Maintenance of protected areas' equipment.

Justification of the indicator:

This indicator promotes the establishment of regular equipment maintenance as a tool that can guarantee the good functioning of the equipment, which contributes to the smooth management of the protected area. The mere purchase of needed equipment is not sufficient; it is of great importance the regular maintenance of the same.

Measurement of the indicator:

This indicator can be measured by taking into account the inventory of existing equipment in the protected area, and by periodic revisions of this equipment to evaluate its condition and to estimate the percentage of equipment that is receiving maintenance. After such an analysis one of the following ratings should be assigned:

5= All equipment of the protected area is maintained.

4= 75% of the equipment of the protected area is maintained.

3= 50% of the equipment of the protected area is maintained.

2= 25% of the equipment of the protected area is maintained.

1= There is no maintenance of the equipment of the protected area.

a.3 Criterion of the necessary physical infrastructure for the management of the protected area

INDICATOR: Infrastructure for the management of the protected area

Justification of the indicator:

This indicator considers all the aspects related to the physical installations of the protected area that permit efficient management, such as buildings, security posts, trails, signs etc.

Measurement of the indicator:

This indicator can be measured by comparing the installations proposed in the optimum scenario with those that exist at the moment of measurement. Using this difference we can assign one of the following ratings:

5= 100% of the physical infrastructure necessary for the basic management of the area has been constructed

4= 75% of the physical infrastructure necessary for the basic management of the area has been constructed

3= 50% of the necessary physical infrastructure has been constructed, but significant gaps exist

2= 25% of the physical installations have been constructed

1= Physical installations necessary for the basic management of the area have not been constructed

INDICATOR: Maintenance of protected area physical infrastructure

Justification of the indicator:

This indicator, the same as that which refers to the maintenance of equipment, is very important in aiding the operation of the protected area. Investment in infrastructure is often lost due to the lack of maintenance.

Measurement of the indicator:

This indicator can be measured by evaluating which installations receive regular maintenance and which do not. This allows an estimation of the percentage that do, so that one of the following rating can be assigned:

5= All installations of the protected area are maintained.

4= 75% of the installations of the protected area is maintained.

3= 50% of the installations of the protected area is maintained.

2= 25% of the installations of the protected area is maintained.

1= Maintenance of the installations of the protected area does not exist.

INDICATOR: Signs in the protected area.

Justification of the indicator:

This indicator has the objective of orienting the visitor about the importance of the protected area's resources, about the personal security of the visitor, and about those activities which are permitted and which are prohibited within the protected area, by means of a system of signs.

Measurement of the indicator:

This indicator can be measured by taking into account the number of signs established that aid in the management of the protected area, according to the following scale:

5= 100% of the required signs for the protected area have been put into place

4= 75% of the required signs for the protected area have been put into place

3= 50% of the required signs for the protected area have been put into place

2= 25% of the required signs for the protected area have been put into place

1= Signs do not exist in the protected area.

b. PERSONNEL FACTOR IN THE PROTECTED AREA

This factor covers all those criteria related to the protected area's personnel such as: the quantity of personnel, their level of training, the level of personnel stability and the ideal match between personnel and the positions that they occupy.

b.1 Criterion of quantity of protected area personnel

INDICATOR: Personnel necessary for the management of the protected area

Justification of the indicator:

Each protected area should have an adequate number of employees in order to achieve successful management.

Measurement of the indicator:

The measurement of this indicator is relatively simple. First, it is necessary to undertake a revision of the quantity of personnel written into the optimum scenario. This quantity of personnel should be based on a serious analysis of the area's management. Second, it is necessary to compare that information with the number of current employees who work in the protected area. The difference between these values can be expressed as a percentage, then one of the following ratings can be applied:

5= 100% of the necessary personnel for the basic administration of the area are employed

4= 75% of the necessary personnel for the basic administration of the area are employed

3= 50% of the necessary personnel for the basic administration of the area are employed

2= 25% of the necessary personnel for the basic administration of the area are employed

1= No personnel for the administration of the area have been employed

b.2 Personnel training criterion

INDICATOR: Personnel trained for the management of the protected area

Justification of the indicator:

This indicator reflects the idea that in addition to having sufficient personnel, employees should also be correctly trained for the functions that they perform. This contributes to improving the efficiency and success of the management of the protected area.

Measurement of the indicator:

This indicator can be measured by means of a brief consultation with the personnel of the area about the training that they have received concerning the management of the protected areas. This information should be compared with that of the optimum scenario defined for the protected area. To define such a scenario, the protected area team should respond to the question: What personnel training is necessary for the management of this protected area? After this comparison one of the following ratings should be assigned to the situation:

5= 100% of the personnel is trained to carry out their functions

4= 75% of the personnel is trained to carry out their functions

3= 50% of the personnel is trained to carry out their functions

2= 25% of the personnel is trained to carry out their functions

1= Personnel have not received training specific to enable them to carry out their functions

b.3 Criterion of level of satisfaction of the personnel.

Justification of the indicator:

This indicator attempts to measure the percentage of personnel that are both satisfied with and well-motivated by their working conditions in the protected area.

Measurement of the indicator:

This indicator can be measured by taking into account those processes that each protected area has put into place to insure the improvement of its personnel's living and working conditions. Some examples of the methods by which such information can be obtained are surveys, personnel meetings, interviews of personal commentaries. Once the percentage of satisfied personnel has been estimated, one of the following ratings should be assigned:

5= 100% of the personnel is satisfied with their working conditions in the protected area

4= 75% of the personnel is satisfied with their working conditions in the protected area

3= 50% of the personnel is satisfied with their working conditions in the protected area

2= 25% of the personnel is satisfied with their working conditions in the protected area

1= Less than 25% of the personnel is satisfied with their working conditions in the protected area

b.4 Criterion of personnel stability

INDICATOR: Rotation of protected area personnel

Justification of the indicator:

With the goal of guaranteeing the best possible management of the protected area, personnel that work in the area should have stability in their position in order that the area avoid undue rotation of workers. This principle of stability guarantees that management programs, training and knowledge about the protected area achieve a high level of continuity.

Measurement of the indicator:

This indicator can be measured by undertaking a detailed revision of the types of appointments of functionaries, the frequency of personnel position changes, and the number of years that each worker has labored in the protected area. Once the protected area's rate of rotation has been determined one of the following ratings should be assigned:

5= No protected area personnel rotation in the last five years

4= Rotation of 25% of the personnel in the last five years

3= Rotation of 50% of the personnel in the last three years

2= Rotation of 75% of the personnel in the last year

1= Rotation of 100% of the personnel in the six months

INDICATOR: Volunteer program for the protected area.

Justification of the indicator:

Creating a volunteer plan for the protected area is of vital importance, since responsibility for the area will be transferred to local actors, and so that the interest groups recognize the necessity of conserving and protecting these territories and their resources. A volunteer plan can also optimize the human and technical resources available for the protected area.

Measurement of the indicator:

For this indicator we determine whether a structured volunteer program that effectively responds to the needs of the protected area is present or absent. One of the following scaled rankings should be applied:

5= A volunteer program that responds to the management needs of the protected area has been established and implemented

4= A volunteer program exists, but has not been followed up on nor evaluated

3= A volunteer program has been designed and mechanisms for its operation have been identified

2= Sporadic volunteer participation exists

1= Volunteers are needed but initiatives for the creation of a volunteer program do not exist

c. PLANNING FACTOR

This factor considers criteria related to the appropriate planning of the protected area, such as a management plan, an operating plan, a zoning plan, and one for threat analysis.

c.1 Criterion of the management plan

INDICATOR: Management plan for the protected area that is in effect and being implemented

Justification of the indicator:

The principle that supports this indicator is that all protected areas should have a management plan as the first and foremost tool for long-term planning and to orient the actions of management.

Measurement of the indicator:

This indicator can be measured by means of a revision of the state of the management plan for the protected area in order to indicate the current level of development of the plan. The protected area can evaluate the execution of its management plan in different ways. One simple way is to calculate the percentage of activities (of all the programs) that have been carried out on time in accord with the plan and what percentage are still pending. A more complicated method involves applying a computer program (such as Microsoft Project) to analyze and evaluate the execution of the plan in a more precise and up-to-date manner. Based on such an evaluation one of the following ratings can be applied:

5= Management plan designed, implemented and up-to-date

4= Management plan designed and implemented for some of the area's programs

3= Management plan designed but not implemented

2= Management plan being elaborated

1= No management plan exists

c.2 Operating plan criterion

INDICATOR: Operating plan for the protected area being implemented

Justification of the indicator:

This indicator promotes the idea that all protected areas should have an operating plan derived, ideally, from the management plan. This type of planning may be represented by annual operating plans that detail the goals and planned activities for the protected area for a particular year.

Measurement of the indicator:

This indicator can be measured by consulting with the administrative office of the protected area and checking for evidence of approved and implemented operating plans. Evidence of operating plans should be compared with the objectives, goals and planned activities detailed in the management plan of the protected area. In addition, evidence may consist of reports on activities from years past presented by the protected area. Once the necessary analysis has been carried out, one of the following ratings can be assigned:

5= An operating plan is being implemented in agreement with the management plan

4= An operating plan is being implemented in agreement with some of the activities established in the management plan

3= An operating plan is being implemented but without basis in the management plan

2= An operating plan is being elaborated

1= No operating plan exists

c.3 Zoning criterion

INDICATOR: Protected area zoned to enable park management

Justification of the indicator:

This indicator denotes the importance of having an efficient zoning scheme for the protected area. The zoning will make sure that the management of the area is better organized.

Measurement of the indicator:

This indicator can be measured by revising the documentation that details the zoning in force (management plan, maps, studies and others). The monitoring team should include an evaluation of the relation of the zoning plan to the management plan of the area. Once this is done, one of the following rankings can be assigned:

5= Zoning that responds to the management plan

4= Technically-sound zoning that allows effective administration of the area

3= Zoning that leads to less-effective administration

2= Zoning that limits the administration of the area

1= No zoning exists

c.4 Criterion of threat analysis

INDICATOR: Threat analysis mechanism prepared for the protected area

Justification of the indicator:

This indicator expresses the need of the protected area to have a threat analysis mechanism that can aid in directing management actions and in enriching area planning.

Measurement of the indicator:

This indicator can be measured with a brief consultation with the administrative office of the area to see if an analysis mechanism exists or if it is in the process of development,

and in agreement with that which is described in optimum scenario. Once the existence or not of such an analysis has been verified, one of the following rankings should be assigned:

5= Threat analysis mechanism has been prepared; threats are identified, prioritized and dealt with through management actions

4= Threats identified and prioritized; management actions for certain threats have been carried out

3= Threats identified and prioritized; management actions for threats have not been carried out

2= Threat analysis has begun

1= No threat analysis exists

3. NATURAL AND CULTURAL RESOURCES ASPECT

d. FACTOR OF THE USE OF THE PROTECTED AREA

This factor includes criteria related to the use of the protected area by the society and its possible impacts on natural resources and neighboring communities. Some of the criteria covered by this factor are: types of use and the impact of area use.

d.1 Criterion of types of use

INDICATOR: Types of use of the protected area

Justification of the indicator:

This indicator promotes the idea that the protected area can permit different types of use by the society, provided that they are in agreement with the objectives of the area management.

Measurement of the indicator:

The measurement of this indicator can be achieved through a brief consultation with the personnel of the protected area in order to identify the types of use, their rate of growth, and then analyze the situation to see if it is compatible with the objectives of the area. Although the maximum value on the scale assumes that compatible use is on the increase, there exists the risk that greater use will be incompatible with these objectives. In this case, use should then be evaluated with the incompatible use indicator. Once the information is obtained, one of the following rankings should be assigned:

Compatible use:

5= Use compatible with the objectives of the area takes place, and is growing with accordance with the management plan

4= Use compatible with the objectives of the area takes place and is stable

3= Use compatible with the objectives of the area takes place but does not follow the regulations established in the management plan

2= Use compatible with the objectives of the area takes place but is on the decline

1= There is not use compatible with the objectives of the area

Incompatible Use:

5= There is no use incompatible with the objectives of the area

4= There is use incompatible with the objectives of the area but it is on the decline

3= There is use incompatible with the objectives of the area and it is stable

2= There is use incompatible with the objectives of the area

1= There is use incompatible with the objectives of the area and it is on the rise

d.2 Criterion of use impact

INDICATOR: Impacts of each use type on the natural resources of the protected area

Justification of the indicator:

The evaluation of the negative impacts of each type of use on the protected area allows the area to define preventative measures to counteract possible problems in the protected area.

Measurement of the indicator:

To measure this indicator it is necessary to undertake a pre-evaluation of the negative impacts that each type of permissible use may generate in the protected area. This analysis should be simple and should involve area personnel as well as outside experts when the situation requires. Once the negative impacts have been identified, the percentage of the area that might be affected should be taken into account. Once this figure has been estimated, a ranking from the following scale can be assigned:

5= Negative use impacts on natural resources in less than 25% of the protected area

4= Negative use impacts on natural resources in 25% of the protected area

3= Negative use impacts on natural resources in 50% of the protected area

2= Negative use impacts on natural resources in 75% of the protected area

1= Negative use impacts on natural resources in 100% of the protected area

Note: Natural resources include: air, water, soil, flora and fauna.

INDICATOR: Negative use impacts on neighboring communities of the protected area

Justification of the indicator:

This indicator compels the protected area to concern itself with measuring and preventing negative impacts, and promoting positive impacts, on the neighboring communities, for each type of use permitted with the protected area.

Measurement of the indicator:

This indicator can be measured using different methods with different levels of complexity. Since this tool should be simple, the indicator may be measured through brief consultations with leaders of communities in the immediate vicinity of protected area. The list of communities to be consulted should have been defined already in the optimum scenario of the protected area. Once the percentage of the communities impacted by any of the types of use in the area has been determined, one of the following rankings should be assigned. If a protected area does not have any kind of active use, no ranking should be assigned.

NEGATIVE IMPACT

5= Negative use impact in less than 25% of the communities

4= Negative use impact in 25% of the communities

3= Negative use impact in 50% of the communities

2= Negative use impact in 75% of the communities

1= Negative use impact in 100% of the communities

POSITIVE IMPACT

5= Positive use impact in 100% of the communities

4= Positive use impact in 75% of the communities

3= Positive use impact in 50% of the communities

2= Positive use impact in 25% of the communities

1= Positive use impact in less than 25% of the communities

e. FACTOR OF CONTROL AND VIGILANCE OF THE PROTECTED AREA

This factor includes criteria related to the protection and control of the protected area, such as the existence of a security or vigilance plan and its impact, and the establishment of area boundaries.

e.1 *Criterion: Vigilance of the protected area*

INDICATOR: Vigilance plan for the protected area

Justification of the indicator:

This indicator is important for the management of the protected area since it is related to control measures, patrols, and the protection of the area. The need to organize these activities within a plan is key to guaranteeing the success of efforts to counteract direct threats to the protected resources located in the area.

Measurement of the indicator:

This indicator can be measured through a brief consultation with personnel in charge of the vigilance of the area. The existence or absence of such a plan, and its effective execution, determine which of the following rankings should be applied:

5= A vigilance plan exists and is applied in its totality

4= A vigilance plan exists and is applied in its majority

3= A vigilance plan exists and is applied partially

2= No vigilance plan exists but systematic security actions are taken

1= No vigilance plan exists and no orderly security actions are taken

e.2 Criterion: Impact of the vigilance plan

INDICATOR: Impact of the protected area's vigilance plan

Justification of the indicator:

The impact of the vigilance plan is measured by the frequency of illegal actions or prohibited activities that take place within the protected area. A successful plan guarantees that no illegal actions or prohibited activities take place within the area.

Measurement of the indicator:

This indicator is measured by the frequency of illegal actions or activities that are specifically prohibited within the protected area. This information can be obtained in the area's administrative office, which should keep track of arrests, complaints, reports etc. Using this information one of the following rankings can be assigned.

5= No illegal actions or prohibited activities take place

4= Illegal actions or prohibited activities are very infrequent

3= Illegal actions or prohibited activities take place sporadically

2= Illegal actions or prohibited activities seldom take place, though are regular

1= Illegal actions or prohibited activities are not controlled

e.3 Criterion: Boundaries of the protected area

INDICATOR: Boundaries of the protected area are declared and demarcated

Justification of the indicator:

The demarcation of boundaries of the protected area is an important priority and facilitates the management of the area and especially its vigilance. At the same time, this helps maintain good relations with the area's neighboring communities.

Measurement of the indicator:

This indicator can be measured by consulting with the administrative office of the protected area to see if a legal definition of the boundaries of the area exists and if boundaries are clearly demarcated in the field. Then one of the following rankings can be assigned:

5= Boundaries of the protected area are legally defined and completely demarcated in the field

4= Boundaries of the protected area are not legally defined but are completely demarcated in the field

3= Boundaries of the protected area are legally defined and partially demarcated in the field

2= Boundaries of the protected area are legally defined but without any demarcation in the field

1= Boundaries of the protected area are not legally defined nor are they legally demarcated in the field

f. FACTOR OF KNOWLEDGE ABOUT RESOURCES IN THE PROTECTED AREA

This factor includes criteria related to the development, administration, organization and the use of knowledge about the protected area. With the goal of carrying out the effective management of the area it is necessary to know what it is exactly that is to be protected. Thereby the protected area can improve the conservation of resources and improve publicity efforts concerning its actions.

f.1 Criterion: Research program



INDICATOR: An adequate research program for the protected area

Justification of the indicator:

The demand for scientific research on protected areas is on the increase. All protected areas should organize their research priorities and efforts into a research program to aid in the management of the area.

Measurement of the indicator:

This indicator can be measured by consulting with the administrative office of the area and by directly investigating whether a research program that responds to the management needs of the protected area exists. Then one of the ratings may be assigned:

5= A structured research program appropriate to the needs of management exists

4= A structured research program exists, but is not very appropriate to the needs of management and only a few actions have been implemented

3= No research program exists, though research adequate to the needs of area management does take place

2= No research program exists, and research that does take place has little relevance to the needs of management

1= No research program exists, and no research is carried out

f.2 Criterion: Administration of the research

INDICATOR: Research with regulation and follow-up

Justification of the indicator:

All research activities in the protected area should be based on regulations that define the mechanisms of their administration. This regulation could pertain to only one protected area or to the entire national-level system. In addition, the regulation should establish the forms of research follow-up for the area.

Measurement of the indicator:

This indicator can be measured by the presence or absence of a research regulation plan and through evidence of appropriate follow-up provided by the administrative office

of the area. After revising this information one of the following rankings should be assigned:

5= Research regulation exists and follow-up regularly takes place

4= There is no established research regulation, but follow-up does take place

3= Research regulations exist but follow-up is not common

2= Research is regulated but is not followed up on

1= There is neither research regulation nor follow-up

f.3 Criterion: Information

INDICATOR: Systematic information on the protected area

Justification of the indicator:

Since the protected area generates a great quantity of information that should be organized and accessible, it is important to insist on adequate information management that permits the use of this information.

Measurement of the indicator:

This indicator can be measured by consulting the office and revising evidence of a system of information management. After the revision, a ranking from the following scale should be assigned:

5= There is a very functional system to register a wide array information, using technological resources.

4= There is a simple system to register the information which is sufficient to aid in the administration of the protected area

3= A partial, unordered system to register information exists, with minimal functionality

2= A poorly designed, unordered and incomplete system to register information exists

1= There is no system to register information

f.4 Criterion: Environmental monitoring

INDICATOR: Species indicators of the area are identified and studied

Justification of the indicator:

This indicator allows the development of a base of knowledge about the principal protected species of ecosystems in the protected area. The identification and monitoring of the state of these species is crucial for predicting negative effects on the ecosystems.

Measurement of the indicator:

The indicator can be measured once evidence is obtained that the protected area has identified the species indicators by following a valid procedure. Moreover, attention should be paid to insure that personnel of the area direct specific efforts towards the monitoring the species identified as indicators. Then one of the following rankings should be assigned for the area:

5= The species indicators of the ecosystem of the protected area are identified using scientifically-valid information, and information about these ecosystems is available to field personnel

4= Some of the species indicators of the protected area are identified and little information is available for field personnel

3= Efforts have been made to identify the species indicators in the protected area and to provide information for field personnel

2= Previous research documents concerning the species indicators of the protected area exist

1= No information about the species indicators of the protected area exists

INDICATOR: Physical connections of protected areas are evaluated and documented

Justification of the indicator:

It is of great interest in Central America to evaluate the potential connection of all the protected areas with the goal of promoting the concept of a Mesoamerican biological corridor. This inter-connection can be understood as the nearness of different protected area with other ecosystems, being either continuous or semi-continuous, that allow the flow of species from one to the other.

Measurement of the indicator:

This indicator can be measured through a serious and responsible evaluation of the potential for connecting the protected area with others, and should be evaluated and documented by area personnel in collaboration with universities or non-governmental organizations with experience in this field. After such a revision of information one of the following rankings should be assigned:

5= The current and potential connectivity of the protected area as been evaluated and is well-documented

4= The current connectivity of the protected area has been evaluated and is in the process of being documented

3= The current connectivity of the protected area has been evaluated

2= The current connectivity of the protected area is in the process of being evaluated

1= No information concerning the connectivity of the protected area exists

INDICATOR: Non-biotic factors in the registered protected areas

Justification of the indicator:

Non-biotic factors are an important component of long-term environmental monitoring that can aid in the understanding the functioning of the ecosystems. Nevertheless, this indicator does not demand the use of expensive, sophisticated technologies. Rather, information can be obtained within the means possible given the financial and development conditions of the protected area.

Measurement of the indicator:

This indicator can be measured through the revision of data that the protected area gathers on non-biotic factors, principally: precipitation, average temperature, sunlight, wind speed and direction, tides and oxygen content of the water. Non-biotic factors of interest should be defined in the area's optimum scenario. After a revision of this evidence one of the following rankings should be assigned:

5= Data exist for more than five years on the principal non-biotic factors of interest for the protected area

4= Data exist for less than five years on the principal non-biotic factors of interest for the protected area

3= Some data exist on the principal non-biotic factors of interest for the protected area

2= Efforts have begun to collect data on the principal non-biotic factors of interest for the protected area

1= No information exists on the principal non-biotic factors of interest for the protected area

4. POLITICAL-LEGAL ASPECT

This aspect includes factors and criteria related to the legal and institutional frameworks that concern each protected area.

a. Factor of the legal basis of the protected area

a.1 Criterion: Legal status

INDICATOR: Legal status of the protected area

Justification of the indicator:

The consolidation of the legal status of a protected area is of fundamental importance for guaranteeing its existence. This consolidation can legally discourage initiatives to segregate all or part of the area and will help make sure that legal norms established for the protected area are efficiently regulated.

Measurement of the indicator:

This indicator can be measured with a brief review of the legal backing that the protected area enjoys (decrees, proposals, laws, agreements etc.). Then, one of the following ratings should be assigned:

5= Official declaration at the highest level of the existence of the protected area, fully recognized

4= Official declaration of the existence of the protected area, but not at the highest level

3= Proposals for the declaration of the protected area in process

2= Proposals exist to declare the protected area, but the process has not begun

1= Neither an official declaration nor any proposal exists that would promote such a wildlife area

a.2 Criterion: Legal aspects

INDICATOR: Enforcement of the law

Justification of the indicator:

All protected areas should count on legal mechanisms to enforce the law that establishes the area and upholds its status. It is very important that the personnel in charge of applying the law have in their power sufficient mechanisms and knowledge to do so successfully.

Measurement of the indicator:

This indicator can be measured by means of a brief revision of the legal instruments of the protected area for the law's enforcement. At the same time, a brief consultation with area personnel can allow the measurement of their knowledge of such legal instruments. Once the revision has been completed, one of the following rankings should be assigned:

5= Appropriate legal procedures for the enforcement of the law exist and all those responsible for their execution have full knowledge of them

4= Adequate legal procedures exist; many of those responsible know the law; programs to aid improvement exist

3= Legal procedures exist; but they are not 100% adequate nor are they fully known by those responsible for carrying them out; programs to aid improvement exist

2= Insufficient procedures exist and are poorly understood by those responsible; programs to aid improvement do not exist

1= Legal procedures for the enforcement of the law do not exist

b. Factor of the institutional framework of the protected area

b.1 Criterion: Administration of the protected area

INDICATOR: Administrative authority of the protected area

Justification of the indicator:

The administration of the protected area impacts on new concepts of decentralization and administrative authority that should be studied and monitored.

Measurement of the indicator:

The best way to measure this indicator is through brief consultations with the administrative office of the protected area and with the central authorities of national system of protected areas. Once the level of administrative authority of the protected area is determined, one of the following rankings should be assigned:

5= The protected area has authority over its administrative and technical affairs

4= The protected area has full authority over its administrative affairs but not over its technical affairs

3= The protected area has authority over its administrative affairs but sometimes should consult with the central office

2= The protected area should consult frequently with the central and regional office concerning its administrative decisions

1= The protected area does not have any authority over its administrative decisions

b.2 Criterion of inter-organizational relations

INDICATOR: Protected area with inter-organizational relations

Justification of the indicator:

The protected area does not exist in an isolated context but rather interacts with various actors represented by governmental and non-governmental organizations. This situation demands that the protected area maintains tight inter-organizational relations.

Measurement of the indicator:

With the goal of measuring this indicator it is necessary to verify the existence of a list of organizations with which the protected area maintains regular contacts and cooperation agreements, and to verify their current status. The protected area should provide the percentage of organizations with which they maintain contacts. After estimating this percentage one of the following rankings should be assigned:

5= Agreements in effect with the organizations; relations with more than 75% of the involved organizations with active projects

4= Relations with 75% of the involved organizations with active projects; actions being undertaken

3= Relations with 25 to 50% of the involved organizations with active projects

2= Relations with less than 25% of the involved organizations with active projects

1= No inter-organizational relations exist

5. ECONOMIC-FINANCIAL ASPECT

This aspect includes factors and criteria related with financing and the availability of funds, the production and valuing of goods and services, and the direct benefits of the protected area to the interest groups.

a. Factor of economic self-sufficiency of the protected area

a.1 Criterion: Financing

INDICATOR: Long-term financing plan of the protected area

Justification of the indicator:

It should be an indispensable requirement that all protected areas have a long-term financing plan that, once executed, guarantees sufficient funds for the optimum management of the area.

Measurement of the indicator:

The measurement of the indicator is based on the existence or absence of a financing plan, its execution, and the availability of funds for the optimum management of the protected area. Once this information is determined, one of the following rankings should be assigned:

5= There is a long-term financing plan, there are functioning financing mechanisms, and income is sufficient for management of the area

4= There is no long-term financing plan, there are functioning financing mechanisms, but income is sufficient for management only in the short-term

3= There is no long-term financing plan, there are functioning financing mechanisms, but income is insufficient for management

2= There is no long-term financing plan, there are some financing actions, and income is insufficient

1= There is no long-term financing plan and there are no functioning financing mechanisms

a.2 Criterion: Availability of expense funds

INDICATOR: Availability of generated funds

Justification of the indicator:

All protected areas should have sufficient financing for its management. Nevertheless, the area should also have available funds to use for its expenses especially if the area itself generated them. This should guarantee that from the funds that the protected area generates, the area can count on enough of an income for an optimum management.

Measurement of the indicator:

This indicator can be measured with a brief consultation with the administrative office of the protected area to verify the existence of policies that will guarantee the availability of funds generated by the area itself. In addition, the protected area should estimate the percentage of investment necessary for its management that is covered by funds available for its expenses. After this consultation, one of the following rankings should be assigned.

5= The protected area has available the money that it generates and can cover 100% of the investment that it needs

4= The protected area has available the money that it generates and can cover 75% of the investment that it needs

3= The protected area has available the money that it generates and can cover 50% of the investment that it needs

2= The protected area has available the money that it generates and can cover 25% of the investment that it needs

1= The protected area does not have available the money that it generates

b. Factor of production of goods and services

b.1 Criterion: Goods and services

INDICATOR: Protected area with goods and services identified and valued

Justification of the indicator:

The protected area should be aware of the goods and services that it makes available to the society. Many of these goods and services are of significant importance such as drinking water, hydroelectric energy, tourism, timber, biodiversity, scenic beauty, among other environmental services. The identification and valuing of these services aid in justifying the existence of the area.

Measurement of the indicator

To measure this indicator it is necessary that the protected area present evidence of the identification and economic valuing of its goods and services. After revising this evidence, one of the following rankings should be assigned.

5= The protected area has identified and valued the goods and services that it produces

4= The protected area has identified the goods and services and 75% of them have been valued

3= The protected area has identified the goods and services and 50% of them have been valued

2= The protected area has identified the goods and services and 25% of them have been valued

1= The protected area has not identified its goods and services

b.2 Criterion: Perception of the value of goods and services**INDICATOR: Interest groups recognize goods and services of the protected area****Justification of the indicator:**

The value of goods and services generated by the protected area should be known not only by the personnel of the area but also by the interest groups. This condition generate support by these groups for the protected area.

Measurement of the indicator:

This indicator can be measured using the results of consultations with the interest groups of the protected area. These consultations should demonstrate the percentage of the interest groups that recognize the goods and services of the protected area. Using these consultations one of the following rankings should be assigned:

5= More than 75% of the interest groups recognize the goods and services of the protected area

4= Between 50 and 75% of the interest groups recognize the goods and services of the protected area

3= Between 25 and 50% of the interest groups recognize the goods and services of the protected area

2= Less than 25% of the interest groups recognize the goods and services of the protected area

1= The interest groups do not recognize the goods and services of the protected area

c. Factor of benefits

c.1 Criterion: Sources of direct benefits

INDICATOR: Interest groups receive direct benefits

Justification of the indicator:

This indicator highlights the interest of the protected area in awareness of the direct benefits that the interest groups obtain from it.

Measurement of the indicator:

This indicator can be measured by revising evidence provided by the protected area about what percentage of the interest groups receive direct benefits generated by the area. After the revision, one of the following rankings should be assigned.

5 More than 75% of the interest groups receive some type of direct benefit

4 Between 50 and 75% of the interest groups receive some type of direct benefit

3 Between 25 and 50% of the interest groups receive some type of direct benefit

2 Less than 25% of the interest groups receive some type of direct benefit

1 The protected area has not generated any type of direct benefits for the interest groups

Third Part: Future Indicators

This part presents a list of proposed indicators that can be developed in the coming years. Said list represents only a proposal and it is hoped that it will catch the attention of all those involved in protected areas in Central America.

The development of said indicators should be the responsibility both of the Central American Council of Protected Areas (CCAP) as well as of current projects, of the national systems and the national directors of protected areas, by way of participatory work sessions. One should not lose sight of the fact that some of the indicators signaled below require equipment and technology that are not always available in all of the protected areas of the region. Thus, at the time of developing and proposing any indicator, one should consider the costs that this implies for the area.

Some future indicators:

- Changes in the populations of hunting species of the protected area.
- Presence of rare species or of those under threat.
- Behavior, distribution and abundance of species indicators (birds, small mammals, invertebrates, amphibians, etc.) of the integrity of the ecosystems.
- Behavior, distribution and abundance of animal species that great large extensions of territory (land, water or marine).
- Behavior, distribution and abundance of animal species with connections of distribution with other protected areas.
- Inventories of flora y fauna (vegetable associations).
- Meteorological factors and climate: Precipitation, solar light, wind speed and direction, barometric pressure, ocean currents, erosion, others.
- Changes in surface water: oxygen, coliforms, nitrates, others.
- Global climactic changes.
- Changes in air quality.

- Changes in vegetable coverage at the level of the protected area (remote sensors, SIG).
- Representativity of ecoregions in Central America.
- Changes in human settlements within the protected area and in the buffer zone.
- Pressures from neighboring communities of the protected area.
- Existence and changes of ethnic groups within or near protected areas.
- Principal sources of employment (employment generated by the protected area).
- Composition of the population of the neighboring communities of the protected areas.
- Changes in human activity (tourism, fishing, lumbering, and others, etc.), that could affect the protected area.
- Changes in the sites of archeological interest.
- Organizational level of the protected area.

FORM FOR FIELD REPORTS ON MONITORING OF PROTECTED AREAS

Name of the Protected Area: _____

Date of the measurement: _____

Name of the evaluator: _____

Indicators	Evidence reviewed	Ranking	Notes
SOCIAL AREA			
Communication Plan Implemented and Evaluated			
5= A communications plan exists and is in operation, it is evaluated and is oriented to have a significant impact in the target population			
4= The plan has been executed and its impact on the target population has been evaluated			
3= Sufficient technical know-how, equipment and materials exist to execute the communications program			
2= Communications needs have been identified, or isolated actions have been taken			
1= A communication plan does not exist, nor have isolated actions been taken			
Participation of Interest Groups			
5= The interest groups participate completely in all aspects of the planning, management and decision-making of the protected area			
4= The interest groups participate in the planning and management of the protected area (but not in the decision-making)			
3= The interest groups participate in some planning activities of the protected area			
2= The interest groups have made clear their availability to participate and the protected area's administrators have consulted with the interest groups			
1= The interest groups do not participate in the planning and management of the protected area; decision-making is centralized			
Land Tenure in the Protected Area			
5= Information on land tenure is available (and mapped-out) and is used constantly to negotiate the adequate management of the protected area with a minimum level of conflict			
4= Information on land tenure is available (and mapped-out) and is used partially in the administration of the protected area			
3= Information on land tenure is available in the protected area but is not used to resolved related conflicts in the protected area			
2= Information on land tenure exists, but is dispersed and access to it is difficult			
1= Information on land tenure does not exist; it is identified as a relevant issue			

Environmental Education Plan for the Protected Area	Evidence reviewed	Ranking	Notes
<p>5= An environmental education plan is carried out and its impact is evaluated regularly</p> <p>4= Parts of an environmental education plan are carried out</p> <p>3= An environmental education plan exists, but has not been implemented due to a lack of resources</p> <p>2= An environmental education plan has been designed</p> <p>1= An environmental education plan does not exist.</p>			
Visitor Satisfaction with the Protected Area			
<p>5= 90% of visitors to the protected area are very satisfied with the services and with their experience</p> <p>4= More that 75% of the visitors to the protected area are very satisfied with the services and their experience</p> <p>3= More than 50% of the visitors to the protected area are very satisfied with the services and their experience</p> <p>2= More than 25% of the visitors to the protected area are very satisfied with the services and their experience</p> <p>1= Less than 25% of the visitors of the protected area are very satisfied with the services and their experience</p>			
ADMINISTRATIVE AREA			
Internal access for the management of the protected area			
<p>5= 100% access for the integral management of the area</p> <p>4= 75% access for the integral management of the area</p> <p>3= 50% access for the integral management of the area</p> <p>2= 25% access for the integral management of the area</p> <p>1= Internal access for the integral management of the area does not exist</p>			
Ideal equipment for the management of the protected area			
<p>5= 100% of ideal equipment for the efficient management of the protected has been acquired</p> <p>4= 75% of the equipment for high-priority management activities has been acquired</p> <p>3= 50% of ideal equipment has been acquired</p> <p>2= 25% of ideal equipment has been acquired</p> <p>1= No equipment exists</p>			
Equipment maintenance of the protected area			
<p>5= All equipment of the protected area is maintained.</p> <p>4= 75% of the equipment of the protected area is maintained.</p> <p>3= 50% of the equipment of the protected area is maintained.</p> <p>2= 25% of the equipment of the protected area is maintained.</p> <p>1= There is no maintenance of the equipment of the protected area.</p>			

Installations for the management of the protected area	Evidence reviewed	Ranking	Notes
<p>5= 100% of the physical infrastructure necessary for the basic management of the area has been constructed</p> <p>4= 75% of the physical infrastructure necessary for the basic management of the area has been constructed</p> <p>3= 50% of the necessary physical infrastructure has been constructed, but significant gaps exist</p> <p>2= 25% of the physical installations have been constructed</p> <p>1= Physical installations necessary for the basic management of the area have not been constructed</p>			
Maintenance of the installations of the protected area			
<p>5= All installations of the protected area are maintained.</p> <p>4= 75% of the installations of the protected area is maintained.</p> <p>3= 50% of the installations of the protected area is maintained.</p> <p>2= 25% of the installations of the protected area is maintained.</p> <p>1= Maintenance of the installations of the protected area does not exist.</p>			
Signs in the protected area			
<p>5= 100% of the required signs for the protected area have been put into place</p> <p>4= 75% of the required signs for the protected area have been put into place</p> <p>3= 50% of the required signs for the protected area have been put into place</p> <p>2= 25% of the required signs for the protected area have been put into place</p> <p>1= Signs do not exist in the protected area.</p>			
Personnel necessary for the management of the protected area			
<p>5= 100% of the necessary personnel for the basic administration of the area are employed</p> <p>4= 75% of the necessary personnel for the basic administration of the area are employed</p> <p>3= 50% of the necessary personnel for the basic administration of the area are employed</p> <p>2= 25% of the necessary personnel for the basic administration of the area are employed</p> <p>1= No personnel for the administration of the area have been employed</p>			
Personnel trained for the management of the protected area			
<p>5= 100% of the personnel is trained to carry out their functions</p> <p>4= 75% of the personnel is trained to carry out their functions</p> <p>3= 50% of the personnel is trained to carry out their functions</p> <p>2= 25% of the personnel is trained to carry out their functions</p> <p>1= Personnel have not received training specific to enable them to carry out their functions</p>			
Level of satisfaction of the personnel of the protected area			
<p>5= 100% of the personnel is satisfied with their working conditions in the protected area</p>			

<p>4= 75% of the personnel is satisfied with their working conditions in the protected area</p> <p>3= 50% of the personnel is satisfied with their working conditions in the protected area</p> <p>2= 25% of the personnel is satisfied with their working conditions in the protected area</p> <p>1= Less than 25% of the personnel is satisfied with their working conditions in the protected area</p>			
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Personnel rotation in the protected area	Evidence reviewed	Ranking	Notes
5= No protected area personnel rotation in the last five years 4= Rotation of 25% of the personnel in the last five years 3= Rotation of 50% of the personnel in the last three years 2= Rotation of 75% of the personnel in the last year 1= Rotation of 100% of the personnel in the six months			
Volunteers in the protected area			
5= A volunteer program that responds to the management needs of the protected area has been established and implemented 4= A volunteer program exists, but has not been followed up on nor evaluated 3= A volunteer program has been designed and mechanisms for its operation have been identified 2= Sporadic volunteer participation exists 1= Volunteers are needed but initiatives for the creation of a volunteer program do not exist			
Management plan for the protected area			
5= Management plan designed, implemented and up-to-date 4= Management plan designed and implemented for some of the area's programs 3= Management plan designed but not implemented 2= Management plan being elaborated 1= No management plan exists			
Operational plan for the protected area			
5= An operating plan is being implemented in agreement with the management plan 4= An operating plan is being implemented in agreement with some of the activities established in the management plan 3= An operating plan is being implemented but without basis in the management plan 2= An operating plan is being elaborated 1= No operating plan exists			

Protected area zoned to enable park management	Evidence reviewed	Ranking	Notes
5= Zoning that responds to the management plan 4= Technically-sound zoning that allows effective administration of the area 3= Zoning that leads to less-effective administration 2= Zoning that limits the administration of the area 1= No zoning exists			
Threat analysis prepared for the protected area			
5= Threat analysis mechanism has been prepared; threats are identified, prioritized and dealt with through management actions 4= Threats identified and prioritized; management actions for certain threats have been carried out 3= Threats identified and prioritized; management actions for threats have not been carried out 2= Threat analysis has begun 1= No threat analysis exists			
NATURAL AND CULTURAL RESOURCES AREA			
Compatible use in the protected area			
5= Use compatible with the objectives of the area takes place, and is growing with accordance with the management plan 4= Use compatible with the objectives of the area takes place and is stable 3= Use compatible with the objectives of the area takes place but does not follow the regulations established in the management plan 2= Use compatible with the objectives of the area takes place but is on the decline 1= There is not use compatible with the objectives of the area			
Incompatible use in the protected area			
5= There is no use incompatible with the objectives of the area 4= There is use incompatible with the objectives of the area but it is on the decline 3= There is use incompatible with the objectives of the area and it is stable 2= There is use incompatible with the objectives of the area 1= There is use incompatible with the objectives of the area and it is on the rise			
Use impact on natural resources			
5= Negative use impacts on natural resources in less than 25% of the protected area 4= Negative use impacts on natural resources in 25% of the protected area 3= Negative use impacts on natural resources in 50% of the protected area 2= Negative use impacts on natural resources in 75% of the protected area 1= Negative use impacts on natural resources in 100% of the protected area			

Negative use impact on communities	Evidence reviewed	Ranking	Notes
5= Negative use impact in less than 25% of the communities 4= Negative use impact in 25% of the communities 3= Negative use impact in 50% of the communities 2= Negative use impact in 75% of the communities 1= Negative use impact in 100% of the communities			
Positive use impact on communities			
5= Positive use impact in 100% of the communities 4= Positive use impact in 75% of the communities 3= Positive use impact in 50% of the communities 2= Positive use impact in 25% of the communities 1= Positive use impact in less than 25% of the communities			
Vigilance plan for the protected area			
5= A vigilance plan exists and is applied in its totality 4= A vigilance plan exists and is applied in its majority 3= A vigilance plan exists and is applied partially 2= No vigilance plan exists but systematic security actions are taken 1= No vigilance plan exists and no orderly security actions are taken			
Impact of the vigilance plan on the protected area			
5= No illegal actions or prohibited activities take place 4= Illegal actions or prohibited activities are very infrequent 3= Illegal actions or prohibited activities take place sporadically 2= Illegal actions or prohibited activities seldom take place, though are regular 1= Illegal actions or prohibited activities are not controlled			
Boundaries of the protected area declared and demarcated			
5= Boundaries of the protected area are legally defined and completely demarcated in the field 4= Boundaries of the protected area are not legally defined but are completely demarcated in the field 3= Boundaries of the protected area are legally defined and partially demarcated in the field 2= Boundaries of the protected area are legally defined but without any demarcation in the field 1= Boundaries of the protected area are not legally defined nor are they legally demarcated in the field			

Adequate research program for the protected area	Evidence reviewed	Ranking	Notes
<p>5= A structured research program appropriate to the needs of management exists</p> <p>4= A structured research program exists, but is not very appropriate to the needs of management and only a few actions have been implemented</p> <p>3= No research program exists, though research adequate to the needs of area management does take place</p> <p>2= No research program exists, and research that does take place has little relevance to the needs of management</p> <p>1= No research program exists, and no research is carried out</p>			
Regulation and follow-up research			
<p>5= Research regulation exists and follow-up regularly takes place</p> <p>4= There is no established research regulation, but follow-up does take place</p> <p>3= Research regulations exist but follow-up is not common</p> <p>2= Research is regulated but is not followed up on</p> <p>1= There is neither research regulation nor follow-up</p>			
Information systematized on the protected area			
<p>5= There is a very functional system to register a wide array information, using technological resources.</p> <p>4= There is a simple system to register the information which is sufficient to aid in the administration of the protected area</p> <p>3= A partial, unordered system to register information exists, with minimal functionality</p> <p>2= A poorly designed, unordered and incomplete system to register information exists</p> <p>1= There is no system to register information</p>			
Species indicators of the area identified and studied			
<p>5= The species indicators of the ecosystem of the protected area are identified using scientifically-valid information, and information about these ecosystems is available to field personnel</p> <p>4= Some of the species indicators of the protected area are identified and little information is available for field personnel</p> <p>3= Efforts have been made to identify the species indicators in the protected area and to provide information for field personnel</p> <p>2= Previous research documents concerning the species indicators of the protected area exist</p> <p>1= No information about the species indicators of the protected area exists</p>			

Physical connections of protected areas evaluated and documented	Evidence reviewed	Ranking	Notes
<p>5= The current and potential connectivity of the protected area as been evaluated and is well-documented</p> <p>4= The current connectivity of the protected area has been evaluated and is in the process of being documented</p> <p>3= The current connectivity of the protected area has been evaluated</p> <p>2= The current connectivity of the protected area is in the process of being evaluated</p> <p>1= No information concerning the connectivity of the protected area exists</p>			
<p>Non-biotic factors in the registered protected areas</p>			
<p>5= Data exist for more than five years on the principal non-biotic factors of interest for the protected area</p> <p>4= Data exist for less than five years on the principal non-biotic factors of interest for the protected area</p> <p>3= Some data exist on the principal non-biotic factors of interest for the protected area</p> <p>2= Efforts have begun to collect data on the principal non-biotic factors of interest for the protected area</p> <p>1= No information exists on the principal non-biotic factors of interest for the protected area</p>			
<p>POLITICAL-LEGAL AREA Legal status of the protected area</p>			
<p>5= Official declaration at the highest level of the existence of the protected area, fully recognized</p> <p>4= Official declaration of the existence of the protected area, but not at the highest level</p> <p>3= Proposals for the declaration of the protected area in process</p> <p>2= Proposals exist to declare the protected area, but the process has not begun</p> <p>1= Neither an official declaration nor any proposal exists that would promote such a wildlife area</p>			
<p>Application of the law</p>			
<p>5= Appropriate legal procedures for the enforcement of the law exist and all those responsible for their execution have full knowledge of them</p> <p>4= Adequate legal procedures exist; many of those responsible know the law; programs to aid improvement exist</p> <p>3= Legal procedures exist; but they are not 100% adequate nor are they fully known by those responsible for carrying them out; programs to aid improvement exist</p> <p>2= Insufficient procedures exist and are poorly understood by those responsible; programs to aid improvement do not exist</p> <p>1= Legal procedures for the enforcement of the law do not exist</p>			

Administrative autonomy of the protected area	Evidence reviewed	Ranking	Notes
<p>5= The protected area has authority over its administrative and technical affairs</p> <p>4= The protected area has full authority over its administrative affairs but not over its technical affairs</p> <p>3= The protected area has authority over its administrative affairs but sometimes should consult with the central office</p> <p>2= The protected area should consult frequently with the central and regional office concerning its administrative decisions</p> <p>1= The protected area does not have any authority over its administrative decisions</p>			
Protected area with interorganizational relations			
<p>5= Agreements in effect with the organizations; relations with more than 75% of the involved organizations with active projects</p> <p>4= Relations with 75% of the involved organizations with active projects; actions being undertaken</p> <p>3= Relations with 25 to 50% of the involved organizations with active projects</p> <p>2= Relations with less than 25% of the involved organizations with active projects</p> <p>1= No inter-organizational relations exist</p>			
ECONOMIC-FINANCIAL AREA			
Long-term financing plan of the protected area			
<p>5= There is a long-term financing plan, there are functioning financing mechanisms, and income is sufficient for management of the area</p> <p>4= There is no long-term financing plan, there are functioning financing mechanisms, but income is sufficient for management only in the short-term</p> <p>3= There is no long-term financing plan, there are functioning financing mechanisms, but income is insufficient for management</p> <p>2= There is no long-term financing plan, there are some financing actions, and income is insufficient</p> <p>1= There is no long-term financing plan and there are no functioning financing mechanisms</p>			
Availability of generated funds			
<p>5= The protected area has available the money that it generates and can cover 100% of the investment that it needs</p> <p>4= The protected area has available the money that it generates and can cover 75% of the investment that it needs</p> <p>3= The protected area has available the money that it generates and can cover 50% of the investment that it needs</p> <p>2= The protected area has available the money that it generates and can cover 25% of the investment that it needs</p> <p>1= The protected area does not have available the money that it generates</p>			

Area with goods and services identified and valued	Evidence reviewed	Ranking	Notes
5= The protected area has identified and valued the goods and services that it produces 4= The protected area has identified the goods and services and 75% of them have been valued 3= The protected area has identified the goods and services and 50% of them have been valued 2= The protected area has identified the goods and services and 25% of them have been valued 1= The protected area has not identified its goods and services			
Interest groups recognize goods and services of the protected area			
5= More than 75% of the interest groups recognize the goods and services of the protected area 4= Between 50 and 75% of the interest groups recognize the goods and services of the protected area 3= Between 25 and 50% of the interest groups recognize the goods and services of the protected area 2= Less than 25% of the interest groups recognize the goods and services of the protected area 1= The interest groups do not recognize the goods and services of the protected area			
Interest groups receive direct benefits			
5= More than 75% of the interest groups receive some type of direct benefit 4= Between 50 and 75% of the interest groups receive some type of direct benefit 3= Between 25 and 50% of the interest groups receive some type of direct benefit 2= Less than 25% of the interest groups receive some type of direct benefit 1= The protected area has not generated any type of direct benefits for the interest groups			
Total			