

**COMMON GUIDELINES AND CRITERIA FOR  
PROTECTED AREAS IN THE WIDER  
CARIBBEAN REGION:  
IDENTIFICATION, SELECTION, ESTABLISHMENT AND  
MANAGEMENT**



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## **COMMON GUIDELINES AND CRITERIA FOR PROTECTED AREAS IN THE WIDER CARIBBEAN REGION: IDENTIFICATION, SELECTION, ESTABLISHMENT AND MANAGEMENT**

1. In keeping with Recommendations of the First and Second Meetings of the Interim Scientific and Technical Advisory Committee (ISTAC) to the SPAW Protocol (Jamaica, 4-8 May 1992 and French Guiana, 3-5 May 1993 respectively) the Secretariat, in co-operation with the relevant governments and organizations, prepared and further revised these guidelines which were adopted by Governments of the Region in 1995. Bearing in mind that protected areas represent one of the most important ways of conserving the biodiversity of the Wider Caribbean Region, and in accordance with Article 21 of the Protocol Concerning Specially Protected Areas and Wildlife (SPAW) in the Wider Caribbean Region, regarding the establishment of common guidelines and criteria on this matter, the Governments must give due consideration to such guidelines when national conservation policies and strategies are being formulated and updated. This is also of particular relevance to the Convention on Biological Diversity (CBD) which in Article 8 calls for the development of guidelines for the selection, establishment and management of protected areas.
2. The following guidelines are not intended to replace the extensive theoretical and methodological information and the national policies of each country that exist on the planning and management of protected areas. Rather, ISTAC is urging the Governments to consider these guidelines as basic tools to be applied according to the natural and socio-political characteristics of each country and in keeping the provisions of Article 7 of the Protocol. Also, the Governments are being encouraged to promote regional exchange of knowledge and expertise with respect to protected areas.

### **A. GENERAL CONSIDERATION**

3. The Governments of the region should consider protected areas establishment and management as an integral part of the economic development and planning process leading to sustainable development taking into account national cultural heritage conservation policies.

4. These areas should be established in such a way as to constitute a national "system of protected areas"; that is, a group of units that are systematically interrelated and which, through proper planning, management and exchange of information, could contribute significantly to the achievement of identified national conservation objectives.

5. The Governments should bear in mind that the establishment and management of a system of protected areas is a continuous, dynamic, participatory and systematic process which promotes the functional and effective conservation of biodiversity. The Global Strategy for Biodiversity suggests, and the Draft Global Marine Biological Diversity Strategy states, that a well-designed system of protected areas should be based on the following:

5.1 A national statement on the objectives, bases, definitions and future orientation of the developing network of a country's protected areas.

5.2 An evaluation of the viability and integrity of the existing system.

5.3 A procedure for systematically identifying more adequate protected areas in order to attain the national conservation objectives.

5.4 A mechanism allowing for local community participation in protected-area planning, establishment, and management processes.

5.5 The improvement and strengthening of the national legal and institutional framework which supports the conservation and management of protected areas, and its integration with other national development policies.

5.6 The systematic revision of international agreements, conventions and programmes with which links must be established and maintained in order to receive greater technical and financial support for these national conservation initiatives.

5.7 A systematic evaluation of the effectiveness of the conservation and management of natural, historical and cultural resources, with respect to the System of Protected Areas as a whole as well as to its individual components.

5.8 A clear statement on national priorities with an action plan leading to the achievement of national conservation objectives.

6. Regarding viability of the protected area system, governments should give high priority to reinforcing and improving the proper management of the existing protected areas, in order to satisfy the objectives for which they were established.

7. The planning, development and management of a system of protected areas at the national level is a complex, multidisciplinary, inter-institutional process, which requires a number of closely interrelated initiatives. This is facilitated by the formation of national mechanisms aimed at co-ordinating all the actors involved, including local and community participation, leading to results that are compatible with, and which may be integrated into the policies of each government agency involved.

8. The planning, development and management of a system of protected areas policies at the national level should consider the following actions:

8.1 Development of national policy and strategy for protected areas;

8.2 Identification of areas that require protection;

8.3 Identification of local community interests, aspirations, and involvement.

8.4 Selection of the areas;

8.5 Categorizing of protected areas;

8.6 Establishment of protected areas;

8.7 Establishment of priority areas;

8.8 Management of protected areas; and

8.9 Review of the efficiency in the management of protected areas.

8.10 Assessment and analysis of the socio-economic environment where the areas are located.

9. The following sections of this document provide recommendations on the formulation of common guidelines and criteria for the identification, selection, establishment and management of protected areas, in accordance with Article 21 of the SPAW Protocol. Governments can, through the Secretariat, solicit assistance in

formulating, drafting, financing and implementing a national system of protected areas, in accordance with Article 18 of the Protocol.

### *Categorization of Protected Areas*

10. The categorization of protected areas is fundamental to ensuring the efficient functioning of a national system of protected areas, and therefore indicates the ways of achieving objectives. It also guarantees the flexibility of the system with a view to maximizing its use.

11. When establishing or improving national protected areas systems, the Governments must ensure that these are well-balanced in terms of the geographical areas which fall under strictly protected management categories, and those falling under resource protection and management. This offers more possibilities for contribution to the sustainable development of each country.

12. The management category is a functional classification which is assigned to protected areas according to their characteristics, natural, historical and cultural values in order to ensure optimum conservation. Each category has its own definitions and objectives which determine the type of management and administration to be implemented.

13. Most countries already have management categories in place, which have been established legally and institutionally. The most common of these are national parks, reserves and wildlife shelters or sanctuaries. However, Governments must undertake a study of the existing categories in order to determine whether these sufficiently address the natural, historical and cultural characteristics of the country, as well as to add new categories, as appropriate. In Appendices VII and VIII, the management categories used for the region are stated as a reference to achieve conceptual harmonization.

14. When referring to national categories in international reports, Governments should give the international equivalent of these categories to ensure a better understanding of their scope and specifics. The management categories established by the IUCN are contained in Appendix III of this document.

15. When categorizing protected areas, a complete evaluation must be done in order to identify the features that are most conducive to conservation as well as the conservation objectives that can be reached through the proper management of these areas. This will assist in assigning the appropriate category. This evaluation process will be greatly aided by the use of matrices which reflect the degree to which the

conservation objectives developed for each management category can be attained in the various protected areas, as well as the number of objectives which can be met.

16. A very important prerequisite for the achievement of effective categorization is that this process be undertaken by a multidisciplinary team that has been involved in all the stages of field planning and study for the protected area. All the members should be quite familiar with the scope and requirements of each management category. It is also important that the categorization be based on results obtained from the field study, and reflect local community interests and aspirations.

17. Regional and international experience has proven useful when establishing the category "Protected Area of Managed Resources" which responds to the concept and management of the Biosphere Reserves. This categorization facilitates the protection of the more significant values and resources as well as the sustainable use of the country's resources by the local population. This may be especially relevant in the case of islands, particularly with regard to their global and marine areas.

## **B. IDENTIFICATION AND SELECTION OF PROTECTED AREAS**

### ***Identification***

18. Protected Areas shall be established in order to conserve, maintain and restore, in particular (Art. 4):

- (a) representative habitats of coastal and marine ecosystems, habitats and associated ecosystems of adequate size to ensure their long-term viability and to maintain biological and genetic diversity;
- (b) habitats and their associated ecosystems critical to the survival and recovery of endangered, threatened or endemic species of flora and fauna;
- (c) the productivity of ecosystems and natural resources that provide economic or social benefits and upon which the welfare of local inhabitants is dependent; and
- (d) areas of special biological, ecological, educational, scientific, historic, cultural, recreational, archeological, aesthetic, or economic value, including in particular, areas which ecological and biological processes are essential to the functioning of the Wider Caribbean ecosystems.

19. Areas that require protection to safeguard their special value, such as those that: a) sustain vital ecosystem processes; b) are particularly important for biodiversity conservation because of richness of species or because they are habitats to endangered or threatened species; or c) sustain activities such as fisheries, tourism, fuel production (fuel wood and charcoal production), education and research, shall be given a high priority for protected status to sustain their benefits.

20. The most important factors to be used in identifying protected areas are significance, representativeness and feasibility.

### ***Significance***

21. Significance is a measure of the value of an area for illustrating the natural or cultural heritage of a country or a region.

22. Factors to be considered among others in determining the significance of a natural area include: degree of uniqueness, naturalness, diversity, ecological integrity, opportunities for sustainable development, and scientific value. Explanations for a number of these terms are included in Appendix I.

23. Culturally and historically significant areas may be districts, sites, natural features, structures or objects that are important in illustrating a country's heritage and its values, and possess a high degree of integrity of location, design, setting, materials, workmanship, feeling and association.

### ***Representativeness***

24. In natural areas representativeness is a measure of the extent to which the site or area is representative of a particular natural or biogeographical element, in terms of its location in key or natural zones of major importance within a biogeographical unit. Areas or sites with a high or medium degree of naturally occurring features, located in transition zones between two or more biogeographical units are considered priority, since there is the possibility of obtaining a high level of natural representativeness by establishing a single conservation unit.

25. For an area to be identified, selected and ranked as important for inclusion in a national system of protected areas, it should represent a natural or cultural theme or resource type that is not adequately represented in the system or is not comparably represented and protected. Adequacy of representation is determined on a case-by-case basis by comparing the area to other existing or potential areas for differences or similarities in the character, quality, quantity, or combination of resources.

26. In order to ensure optimum conservation, a national system of protected areas should, where possible, include one (1) or more important samples of each type of a country's ecosystem. More effective conservation and representation of the important ecosystems of each country is probable if two (2) or more areas with these ecosystems are protected. A list of these ecosystems and their definitions should be developed as appropriate.

### ***Feasibility***

27. Feasibility refers to the degree to which an area can be adequately protected and managed in order to achieve its conservation objectives. The feasibility of managing an area depends on a number of ecological, political, economic, social and administrative factors including: size of the area, isolation, configuration, accessibility, land ownership and ancestral rights, population density, acquisition costs, economic interests in the area, environmental impacts, and staff or development requirements. A number of these terms are discussed in Appendix II.

28. Although an area may have achieved the significance and representativeness criteria, it still may not be feasible to include this area in a protected area system.

29. In considering the feasibility of protecting an area, Governments are encouraged to take into account all available options for establishment and management, including the role of NGOs and the private sector.

30. Governments should be aware that the identification of protected areas is a multi-disciplinary, multi-sectorial and interinstitutional process. Therefore, as far as is possible, steps should be undertaken to promote measures aimed at establishing groups of experts, groups of technical consultants, or other types of organizations which, under the auspices of the relevant national authorities, will unite efforts and focuses to ensure greater integration of all the actions necessary for the review and improvement of the national systems of protected areas.

31. The process of identifying protected areas is made up of a series of steps and interrelated actions which ensure a suitable structure for a system of protected areas. There are a number of proven national and international methodologies; however, in addition to the provisions of Article Section 3 of the Protocol, the Governments are urged to consider the recommendations of this section in the application of national conservation strategies.

32. In identifying protected areas, the Governments, through the relevant national body or bodies, should promote and encourage the establishment, review and improvement of the system for classifying the whole range of natural, historical and

cultural sites and areas of special interest. The appropriate system of classification may differ according to the size and complexity of the land-mass and/or water body in question. Co-operation from other countries of the region should be sought to assist with the classification process.

33. The classification system should be the point of departure for the evaluation of the level of biogeographical representation of the existing protected areas, with the aim of identifying gaps or over-representation which need to be overcome in order to improve the national system of protected areas.

34. Governments should periodically review and update the current use and status of natural, historical and cultural sites and areas, with the aim of identifying those areas that are suitable for protected areas status. This process should include the identification of problems affecting the management of existing protected areas.

35. This revision process must include the updating and evaluation of existing protected areas, as well as a review of the problems associated with their protection and management.

### *Selection*

36. Protected areas should have the support of potential constituents such as the waters users (potable, irrigation, hydro power), the tourism industry, users of non-timber forest products (arts and crafts, medicinal plants, etc.), the educational system, local associated communities, coastal zone managers, and recreationists. To have the support of these constituents, the selection and design process should be linked with their needs-specific services and products. The representativeness of the system and review of efficiency, therefore, should be seen in terms of the services and products of all constituents.

37. For the selection of terrestrial and marine natural areas, the most common criteria to be considered, among others, by the Governments, are the following:

- Presence of biogeographical units, ecological environments, highly diversified natural units or biological richness.
- Presence of threatened or endangered species, particularly those which require their habitats regulated against human intervention.
- Contribution of the area to the maintenance of ecological and environmental functions or processes, including the life cycles of biological species and communities of particular interest.
- Concentration of wildlife, or of communities and species of scientific, ecological or economic interest. In this regard, Governments must consider as

priority the protection of habitats which contain useful populations of economically important genetic resources (wild "strains" of related industrial crops, vegetables fruits, plants used in the manufacture of pharmaceuticals, etc.).

- Protection of watersheds, particularly those which are essential to stability and protection and proper functioning of important coastal and marine environments (coastal lakes, beaches, mangrove swamps, coral reefs etc.).
- Special sites for migratory species, especially those associated with wetland areas.
- Areas where great concentrations of spawning and/or breeding of marine organisms and birds occur.
- Areas which are downstream sources of larvae.
- Presence of plant formations, associations or communities of scientific, environmental or scenic interest.
- Existence of endemic species, particularly local species, with limited distribution and populations.
- Transition zones between the main types of ecosystems which may include high-altitude gradients, humidity, types of forest and other relief, distinct microclimates etc. These transition zones are essential to the conservation of genetic or biological diversity.
- Presence of unique or rare natural, historical or cultural resources at the national, regional and global levels.
- Existence of customary and traditional activities which support the well-being of local populations on a sustainable basis.
- Existence of tourism and recreational resources, that allow for the application of a wide range of options in use, especially in the area of ecotourism.
- Possibilities for encouraging environmental education and community involvement in conservation activities and management of natural, historical and cultural resources.
- Possibilities for showing relevant or significant examples of harmony or integration between socio-economic activities and natural landscapes.
- Areas which, although not possessing many or unique resources, receive a lot of support for conservation, whether from ethical, aesthetic, religious or any other group.
- Areas of special ecological and environmental value which facilitate the commencement, promotion and continuation of analysis and monitoring of the effects of climatic changes on typical ecosystems within the region.

38. The Governments must prioritize for selection, those conservation units which, on an individual basis, meet most of the criteria in a highly satisfactory manner.

39. Examples of cultural elements within areas that may be selected for inclusion as a protected area include:

- Resources that are associated with significant events that contributed to a country's history.
- Resources associated with the lives of persons significant to a country's history.
- Resources that embody distinguishing architectural style or are exceptionally valuable for the study of a period, style or method of construction.
- Resources that represent a significant, distinctive or exceptional entity whose component may lack distinction.
- Resources that have or may likely yield information of scientific importance revealing new cultures, or by highlighting periods of occupation by earlier cultures.

### **C. ESTABLISHING PROTECTED AREAS**

40. The general and basic criteria for establishing protected areas are contained in Article 4 of the SPAW Protocol.

41. The establishment of protected areas, in the widest sense, implies the establishment of well-defined, clearly-marked boundaries, including buffer zones, if possible, their legalization in keeping with existing national mechanisms, and their effective management under a protection regime which gives due consideration to the natural, historical, cultural and socio-economic resources of the area.

42. As part of the process of establishing new protected areas, or improving existing ones, the Governments should undertake a study of the legal and institutional systems and identify any changes -that might be necessary to fulfill the national conservation objectives. This includes the legal and organizational measures that are intended to increase the responsibility and participation of local populations with respect to the management of protected areas as well as to allow for proper financing through the different possible mechanisms. (See Appendices VI and IX).

43. In developing plans and national budgets Governments should bear in mind that the establishment of new protected areas or the improvement of existing ones may be facilitated by consolidating the management capacity of the institutions responsible for the protection and management of those areas.

44. Traditional rights and interests shall be respected. The areas of indigenous groups and local communities shall be protected from activities that are considered to be socially, ecologically or culturally inappropriate.

45. Protected areas or buffer zones contiguous to the frontier or to the limits of the zone of national jurisdiction of another Government shall be established in accordance with Article 9 of the Protocol. The Governments are being urged to consider the recommendations made in the Technical Report on the management of bordering wilderness areas in Latin America (FAO/UNEP Technical Report No. 10).

46. Governments should consider offering incentives for the establishment of protected areas owned or administrated by or in co-operation with the private sector and non-governmental organizations. International experience has shown an increasing trend in the management of protected areas by community groups, NGO's, academic and research institutions, and private institutions which are making valuable contributions to the conservation of biodiversity. Notwithstanding this, the Governments should monitor the management of these areas, which must be guided by national conservation objectives and strategies.

47. When establishing new protected areas and improving existing ones, Governments should give priority to those that need to be recognized within the framework of existing international or regional programmes and agreements, as part of the global efforts being undertaken for the conservation of global biodiversity and world heritage.

48. As part of the process of establishing protected areas for biological conservation, Governments should undertake an evaluation outlining the economic importance of conserving these areas for activities such as fisheries, forestry, water supply, coastal protection, tourism, recreation, agriculture or soil conservation. This is a key consideration in the decision-making process, as the protection of site is likely to be more successful when economic benefits can be demonstrated.

### **Defining *Priority Areas***

49. Bearing in mind the threat of degradation of natural resources, as well as the limited availability of technical, financial and human resources for the establishment and management of protected areas, the Governments should identify priority areas which will facilitate a better distribution of available resources and seek mechanisms for co-operation and funding.

50. Governments should give the highest priority to units requiring protection in' light of their high significance or representativeness, as well as the immediate or near-

term threats which can affect them. Measures aimed at instituting an effective management system must be enforced immediately, if the quality of these sites is to be maintained.

51. Areas of highest priority may include:

- The presence of the endangered and locally endemic species, considering in particular the species contained in Annexes I and II of the SPAW Protocol;
- The presence of unique or rare national, regional, or international landscapes or ecosystems;
- Special sites of high importance to sustain the nesting, feeding, wintering and breeding of migratory species;
- Areas of high biodiversity within each biogeographical province, especially important to maintain the genetic evolution and resources within them;
- Areas with biological or geographical characteristics which confer and sustain high economic and social value, especially those particularly important in ensuring the long-term survival and well-being of the population; and
- The presence of populations of species considered rare at the local level.

52. In the process of assigning levels of priorities, the use of matrices would be especially helpful in order to compare in a quantitative manner, the number of natural and cultural parameters that could reflect the importance of each proposed or existing protected area to meet the national conservation and development objectives.

53. Defining priorities for protected areas management can significantly improve national conservation plans in the short, medium and long term, and should serve as a guide for the preparation of projects for international co-operation and funding. These priorities can prove very useful in identifying and classifying protected areas in accordance with Article 7 of the Protocol.

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## **D. MANAGEMENT OF PROTECTED AREAS**

54. Protected areas should be managed for multiple uses, with sustainable utilization of resources and biodiversity conservation as fundamental objectives. Management should take into account ecological, social and economic factors which affect the management units.

55. In order to protect an entire ecological unit, a protected area should encompass a spectrum of relevant habitats including the uplands, watersheds, coastal habitats, and adjacent waters. Ideally, for a protected area enclosing such a range of habitats,

management authority for all resources should reside in one agency; however, management authorities for terrestrial and marine/estuarine resources tend to be housed in different agencies or branches of government. An alternative is to establish a "Memorandum of Understanding" among all necessary agencies in order to manage the protected area with one voice.

56. The most effective management is that which recognizes natural subsidies and which conserves natural processes that support the attainment of management goals. The more the management regime can support ecological processes that are in place, the greater the chances of success of the management effort. Sustainable management is attainable only when the manager works effectively with the underlying processes and not against them.

57. Scientific research and technical information, while important, should not bias a government away from the significant contribution that cultural custom and knowledge can provide for planning and management. There are usually sound environmental reasons why a culture develops traditional practices over generations of trial and error.

58. Benefits from protected areas should be distributed among local as well as national and international interests. In order to obtain community support, local citizens must become involved and integrated into all aspects of the planning and management process and must be assured of a fair share of the accrued benefits.

59. Management should be adaptable and should contain procedures for incorporating new knowledge, experiences and the need to respond to changing conditions. Managers should recognize that the decision-making process must cope with uncertainty arising from insufficient information, erroneous perceptions, and the large number and changing nature of the factors and components that act on the environment. Hence, management decisions should be conservative, carefully monitored and flexible enough to accommodate change.

60. Managers should avoid the development of complex management schemes and management plans that are not financially viable, for which the human resources are not available, or which cannot be implemented effectively.

61. Public education and participation is essential for the success of any management effort. The need for a multidisciplinary approach to planning and management and the need for public participation in every step cannot be overstated.

62. Terrestrial and marine protected areas may have a similar selection criteria (i.e. biogeographic representativeness, protection of critical habitats for endangered

species) and management objectives (i.e. protection of resources) , but there are important differences with regard to management practices. Marine protected areas are far more fluid in nature, without concrete boundaries, with an extra dimension of depth, and harder to monitor and manage. Marine protected areas also usually have higher demands and expectations than terrestrial protected areas, perhaps because the concept of marine protected areas is still so new. For example, while hunting is usually not permitted in a National Park, the equivalent (fishing) is usually one of the most controversial activities to regulate in a marine protected area. The main factors for marine protected area establishment and delimitation as well as the sequence of the decision-making process when establishing and managing a marine protected area appear in Appendices IV and V.

### *Management Plans*

63. The Governments should propose that the units that make up the protected areas systems be strengthened, through the establishment of management plans or, in their absence, operative plans, particularly for those areas designated to be priority areas.

64. The lack of management plans makes it difficult to estimate the cost of conservation activities and the material and human resources required, making it impossible in the long-term to adequately develop the protected areas system. In addition, it significantly limits the assessment of the level of effectiveness attained in the protection of the area and the benefits derived therefrom.

65. The Management Plan or Master Plan for a protected area is the main management tool in order to achieve sustainable use of the area and its resources. It defines values, inventory of resources, establishes the zoning and structure of the area, guidelines for zone management and protection and the priorities for the activities to be undertaken. It also identifies the funding and resources required for the successful implementation of the Plan in the short and long-term.

66. The development of Management Plans for protected areas on adjoining national borders should be carried out as much as possible, in conjunction with the neighbouring country and in accordance with Article 9 of the Protocol. This is done in order to optimize its practical application and to integrate the resource management criteria, especially in those factors requiring careful co-ordination, such as monitoring of illegal hunting, the management of migratory species and fire prevention.

67. In order to facilitate a full-scale evaluation of the area, Governments should encourage the formation and/or use of existing multidisciplinary teams at the national level to develop the management plans. This facilitates an integral assessment of the resources of the area, an essential factor required for making recommendations

regarding management practices compatible with the characteristics and values of the area.

68. It is equally essential that Governments ensure that the development and implementation of the management plans is done in a co-ordinated and integrated manner with all institutions (scientific, academic, governmental and NGO's) and social sectors relevant to the specific protected area, with special emphasis on local communities, as a means of ensuring applicability and the achievement of the objectives of the management plan.

69. Given the rapid growth of tourism and ecotourism in protected areas, Governments should give priority to the development of specific plans which allow for adequate resource management and the achievement of benefits which favour conservation and improvement of the standard of living of the local population.

As far as possible, steps should be taken to promote the study of the tourism potential of the area, determine carrying capacity, planning of the spatial and temporal flow of visitors, the development of necessary infrastructure, mechanisms for promotion and marketing, as well as ensure that for each ecotourism activity, there is transference of generated incomes to the area and involved communities and that the national plans and policies for tourism development are integrated.

70. Bearing in mind that not all Governments are at the same stage in the development of management plans, and given the importance of the plans themselves, Governments should make use of regional cooperation mechanisms for plan development, in accordance with provisions of Article 7 of the Protocol. The development of these plans should facilitate the design of projects that are aligned to the objectives of the SPAW Regional Programme as well as those of the IPID Regional Programme of CEP.

71. The Management Plan at the national level should contain among other elements the following basic components:

- **Physical boundaries** for the protected area, the full extent, both inland and seaward.
- **Objectives to be achieved** through the management and protection of the area as well as its relationship to national conservation strategies.
- **Description of the physical and biological characteristics** of the existing resources and their values, the state of conservation and the main environmental threats affecting them.

- **Description of the socio-economic factors of the area.** Existing population and its distribution throughout the area, land ownership. Trends in land use, both from the point of view of historical development and current usage by the local population and other sectors (commercial fisheries, tourism, forestry, etc). Analysis of the existing conflicts regarding the use of natural or historical-cultural resources.
- **Zoning of the area and criteria used for zoning.** Boundaries as well as physical and biological characteristics of the main areas need to be identified. Presence of unique zones, important species or habitats and sites having significant natural or historical importance. Identify ecological corridors where appropriate to ensure that species are not protected in isolation and allow for the natural dispersal of genetic material that will allow ecosystems to adapt to changes.
- **Management regime for each zone and regulations for use.** Propose changes in use and the identification of methods for recovery and improvement in the zone. Proposals for changes in use or regulations recommended for areas adjacent to the protected areas.
- **Special management programmes.** Visitors development of ecotourism, re-forestation programmes and improvement of forests, wild fauna, development of centres for the priority species breeding, search and rescue, pollution control, ranger guard patrol, fire control, environmental education and outreach activities for the local population, environmental monitoring, research programmes and studies.
- **Programmes and mechanisms aimed at raising funds** to facilitate self-financing of the area. Other programmes and activities on education and public awareness.
- **Administration and maintenance.** Identify required budget and staffing as well as main staff functions. Administrative requirements both at the local and national level. Need for equipment and materials, infrastructure for operation in the area, staff training programme, action plan with volunteer brigades, consultants and advisors. Contingency plans for natural disasters and accidents.
- **Legislation and legal framework** for the implementation of the Management Plan and its compatibility with national development policies.
- **Annexes with maps and basic information** inventories of physical features and characteristics as well as species of fauna and flora, compilation of sources

of information and studies relating to the area. GIS information and provisions for its development if not available.

- **Description of the existing and future institutional capabilities.**

72. In the case of terrestrial protected areas, rational management of the forest is essential due to its implications for the conservation of biodiversity in addition to the management of individual species. Therefore, it is essential to undertake an analysis of the types of use and improvement technique of natural forest. In the case of maintaining exploitation of forests, these activities need to be implemented using sustainable forestry techniques.

73. In the case of marine protected areas, a combination of various regulations is essential as a basic management principle. This includes installing signals in the area through an effective system of buoys; prohibiting activities during periods of the year that are critical in the life cycle of priority species; determining areas in which fishing or other activities would be permanently banned; prohibiting commercial fishing or establishing maximum fishing limits and minimum size for catches; prohibiting the use of certain types of equipment or fishing methods; regulating anchoring, sewage, food waste and oily bilge water from vessels; limits on types of vessels or their speed and noise level; regulating feeding of fish and birds; regulating runoff and discharges from land-based and other sources of pollution; controlling access by visitors and their activities through a system of licenses and permits; determining the carrying capacity in diving areas; creating more environmentally friendly facilities in tourist areas and encouraging rational use of adjacent coastal areas.

74. Management plans with the above characteristics are sometimes costly or difficult to carry out. In these cases, it is recommended to formulate annual or biennial operative plans which, though lacking the strategic vision of the former, constitute an alternative guideline for the actions.

75. Operative plans should include:

- A brief description of the area and its resources, regional location and public use.
- Main management problems.
- Limitations for effective management.
- Status and availability of the existing infrastructure and equipment.
- Personnel list with their positions, distribution in the field, training, including an organizational hierarchical diagram.
- Activities to be carried out regarding resources, use by visitors, research, and administration.

- Required tools and supplies to carry out the planned activities, suggesting priorities.
- Required personnel to carry out the planned activities, suggesting qualification levels and changes in personnel.
- Budget outlining all costs and suggesting additional financial sources.
- Required assistance from the relevant government agency.
- Workplan indicating the timetable for activities.

76. Operative Plans formulation is also recommended even when there are detailed management plans. In these cases, operative plans should include an evaluation of the Management Plan implementation.

### ***Review of the efficiency in the management of protected areas***

77. The management of protected areas is a dynamic process which is subject to natural, social and administrative influences. For this reason, Governments should ensure that mechanisms and activities are undertaken which would facilitate the systematic evaluation of the functioning of the protected area system.

78. The review and evaluation process of the protected area system must be considered as a critical component of the planning process and should be examined within the legal framework governing the functioning of the system.

79. Governments should encourage the development of national criteria for the evaluation of the protected areas systems in keeping with its natural and socio-economic characteristics. Nonetheless, it is recommended that the following basic aspects among others be considered:

- **Analysis of the biogeographical gaps and over representations:** This will facilitate the identification of biogeographical units which are required for the establishment of new protected areas, as well as for units which comprise several protected areas. With respect to the latter, the biogeographical analysis allows for the elimination of impacted protected areas as well as to permit a change in the management category to satisfy the objectives for which the protected areas were originally established.
- **Legal status of the areas:** This will facilitate the identification of areas which do not yet have legal status. This will facilitate the declaration of the protected areas on a priority basis. In addition, the results of the analysis will provide information on the existing legislative framework required for conservation and sustainable development.

- **Evaluation of the validity of the management categories established:** An analysis should be undertaken to determine whether or not the management of each protected areas responds to the category to which it was assigned. The analysis should specifically indicate if the management category was properly assigned taking into account the values of the area; if it is necessary to apply new management categories in the National Protected areas system, or to reject those with proven deficiencies or limited viability in the National condition.
- **Level of protection to, be achieved in the biogeographical unit:** This element attempts to show whether one or more protected areas is sufficient for the protection of an specific biogeographical unit.
- **Existing management projects and their application:** This provides the basis for the evaluation of protected areas which are included in ongoing management projects in order to determine the effectiveness of project implementation.
- **Recovery efforts for species or communities of interest:** Many protected areas were established on the basis of a biocentric focus, which has lead to the preservation of specific species and/or priority communities. This has given rise to the need for monitoring and evaluating the level of conservation and recovery achieved in these areas, as an indicator of the effectiveness of the protection and management provided for the species.
- **Status of current knowledge and research:** This is an important element to be evaluated not only as it represents one of the priority objectives for the establishment of protected areas, but also because, through adequate knowledge of the ecological characteristics and the functioning of the existing ecosystem, it is then possible to attain proper management.
- **Level of protection and management:** This refers to the evaluation of the level of maintenance and care which is given to each of the protected areas, and can be evaluated on the basis of compliance with the conservation objectives planned for the area, the extent of the environmental improvement or deterioration which occurs, the availability of financial and human resources needed for its management, the integration achieved with local population, and the way in which the management of the area has been integrated within development plans.

80. Governments should consider that, the systematic evaluation of functioning of a protected areas system allows for the identification of aspects which require special attention for the purpose of reinforcing the conservation and management objectives.

81. Similarly, Governments must bear in mind that an-evaluation of national systems of protected areas provides useful elements for improving management policies and strengthening regional cooperation; in order to respond adequately to the demands on biodiversity as well as national and cultural heritage of the Wider Caribbean Region.

## **APPENDICES**

### **APPENDIX I: CHANGES AND MODIFICATIONS**

#### **Naturalness**

This refers to the degree of change the area has undergone as a result of the different socio-economic activities that have taken place there, as well as the modifications related to a extreme natural phenomena (hurricanes, floods, earthquakes, etc.).

In developing protected areas it is generally possible to identify three (3) different cases:

- Areas with high degree of naturalness, where human impacts are not detected or have a very weak manifestation, allowing for a substantial amount of primary vegetation. This case requires high priority for the establishment of protected areas such as natural reserves or natural monuments provided that it is feasible to do so.
- Areas with a medium degree of naturalness, where natural landscapes and features prevail, but with locally modified places which could recover through effective environmental management. This case also merits special attention for the establishment of protected areas, such as national parks.
- Areas in which a high degree of modification has occurred however, there are remaining isolated and scattered natural sites with the special ecological or historical/cultural interest. Due to the environmental importance (watersheds, wetlands, etc.), of some areas, it may be necessary to protect and manage these areas as whole units, using the principles of multiple use.
- In the regional context all these cases can be found, especially in the island countries where the last case is likely to prevail.

## **Diversity**

This refers to the degree of natural and biogeographical complexity of an area. This may be evaluated on the basis of the presence of various vegetal communities, according to the number, variety and conservation status of the flora and fauna, in the various ecosystems, the degree of endemism. of living resources, or the presence of various natural landscapes. In the case of marine areas, indicators of the variability of oceanographic and biological characteristics must be used, as well as the relationships between marine and coastal ecosystems, the presence of sizeable populations of living marine resources and the internal variability of the ecosystems, especially of coral reefs.

## **Ecological Integrity**

Top priority must be given to the identification of areas which contain important natural or biogeographical elements, or which have important ecological sites and niches which guarantee the survival of certain biological communities. The Governments are therefore urged, especially in the case of marine areas, to include, if possible, coastal zones and sections of watersheds that are adjacent to the protected area.

The following **definitions** which are contained in the Convention on Biological Diversity might be of importance:

"*Biological diversity*" means the variability among living organisms from all sources including *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

"*Sustainable use*" means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

"*Biological resources*" includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.

"*Biological resources*" includes genetic resources, organisms or parts thereof populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.

*"Biotechnology"* means any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.

*"Habitat"* means the place or type of site where an organism or population naturally occurs.

## **APPENDIX II : ECOLOGICAL FACTORS**

These are very important particularly because of their implications for the DESIGN of the protected areas, an aspect which needs to be studied as part of the identification process. Among the more important factors to be considered are the following:

### ***Size of the Area***

This factor is part of the reason why, from an ecological and genetic point of view, the area needs to be of a certain size so that its processes and functions can be self regulating; since, in general, the larger the protected area, the more it will be able to meet its conservation objectives. In the case of tropical rain forests, it is estimated that the area's size should consist of approximately 50,000 hectares (50 Km<sup>2</sup>) of the richest habitat occurring in a natural area.

In the Caribbean islands, the size of protected areas varies between less than 100 to 50,000 hectares (1 Km<sup>2</sup> to 50 Km<sup>2</sup>), while some continental countries have larger areas. For island countries, the criteria of size is relative, due mainly to the influence of endemism. Notwithstanding this concept, the Governments must consider it a fundamental need to protect as extensive an area as possible of natural and semi-natural ecosystems.

Additionally, the minimum viable area to be protected will generally require a specific management regime to be protected for its protection and management in order to minimize external impacts. Larger areas will generally fall under the category of "Areas of Multiple Use", in order to facilitate more intensive management. This may require a suitable method of zoning, such as is used in biosphere reserves.

The Governments must recognize that, unlike terrestrial ecosystems, marine protected areas, function in a more dynamic way as open due to the influence of currents, the flow of sediments and nutrients the movement of organisms and the mixing of different bodies of water. For that reason, the protection of certain communities and

fragile ecosystems can only be achieved if the protected areas are extensive enough to reduce impacts, allowing the critical communities or habitats to remain relatively unaltered.

### ***Isolation***

Directly relates to the dimension of the area, due to its function as "biogeographical islands". The more isolated an area from natural or semi-natural environments, the larger it should be so as to ensure its self-sufficiency, and the more intense its management and protection system should be.

Protected areas located in a zone that has not been significantly modified are generally more capable of limiting external impacts and also facilitating ecological and genetic exchange and functioning.

In the case of several isolated protected areas, which are closely related, their design has to promote the creation of corridors by extending the vegetation cover using forestry practices; or to facilitate compactness of the area by including adjoining zones as well as the use of these areas in forestry improvement activities or other activities that are compatible with protection objectives.

### ***Configuration***

This is another basic aspect of design, since the more easily managed areas are those that have as compact a shape as possible, with regular boundaries such as physical features (rivers, watersheds, coastal areas, etc.). International experience shows that more serious management problems are linked to zones with irregular, boundaries that are difficult to distinguish or locate on land; or when the protected area has narrow or discontinuous strips of highly modified areas.

### ***Accessibility***

Inaccessible areas, offers intrinsic possibilities for conservation. However, management of resources contained in these areas is often more costly (control of forest fires, patrolling, rescue of visitors, research, etc.).

### ***Social and Administrative Factors***

The importance of these factors are generally underestimated when identifying protected areas, and very often this seriously impedes effective protection and management. Social and administrative factors are critical to effective planning and management of protected areas. The main factors to be considered are the following:

- ***Land Ownership***

Countries in which state owned land prevails are potentially more favourable than those where other government lands have to be bought or transferred. However, this not a determining factor, but Governments should lobby for national policies that will encourage and facilitate the integration of private communities (both, inside of and outside the protected area) into programmes fostering sustainable use of the areas natural resources benefiting local populations. Land ownership or clear evidence of a title by either public or private entities is an essential factor for sustainable management of protected areas.

- ***Ancestral Rights***

In the case of areas which constitute the patrimony of tribal communities and indigenous populations, these zones must be conserved when establishing protected areas. The population and its customs must be respected and maintained, and assistance offered, wherever possible, towards their well-being.

- ***Population Density***

It is not always viable to establish highly protected areas in places that have a high population density. This factor is very important when identifying new national parks, bearing in mind that community pressure is fundamental for the management of these types of areas in the region. Governments should encourage the involvement of local citizens in the planning and management of protected areas.

All over the region, but especially in island countries, it might be difficult to identify highly natural areas located far from local populations, and for that reason the Governments should promote and encourage national environmental education policies which will seek to involve citizens in conservation activities and the sustainable use of resources.

- ***Environmental Impacts***

National and physical development plans must be revised in order to evaluate the impact of specific projects on existing or proposed protected areas. This is especially important in the case of agricultural expansion,

urbanization ' industrial development or intensive tourism projects to be located close to natural areas.

Governments should encourage preparation of environmental impact assessments of proposed development activities potentially affecting protected areas in accordance with Article 13 of the Protocol. The findings of these assessments should be brought to the attention of local communities and form an important input to the planning process.

Governments should consider potential protected areas in zones that are not involved, as possible, in approved development projects, especially those that are not compatible with its conservation objectives. In the opposite case of areas that are involved in approved development projects, efforts should be made in order to make compatible or integrate development and conservation actions on a sustainable basis.

### APPENDIX III: THE INTERNATIONAL SYSTEM OF MANAGEMENT

#### **CATEGORIES**

The system of categories has been developed, inter alia, to provide a basis for international comparison. Moreover, it is intended for use in all countries. Therefore the guidance is inevitably fairly general and will need to be interpreted with flexibility at national and regional levels.

#### **CATEGORY I**

**Strict Nature Reserve/Wilderness Area:** protected area managed mainly for science or wilderness protection

#### **CATEGORY I a**

**Strict Nature Reserve:** protected area managed mainly for science.

#### **Definition**

Area-of land and/or sea possessing, some outstanding or representative ecosystems, geological or physiological features and/or species, available for scientific research and/or environmental monitoring.

## **Objectives of Management**

- to preserve habitats, ecosystems and species in an undisturbed a state as possible;
- to maintain genetic resources in a dynamic and evolutionary state;
- to maintain established ecological processes;
- to safeguard structural landscape features or rock exposures;
- to secure examples of the natural environment for scientific studies, environmental monitoring, and education, including baseline areas from which all avoidable access is excluded;
- to minimize disturbance by careful planning and execution of research and other approved activities; and to limit public access.

## **Guidance for Selection**

- The area should be large enough to ensure the integrity of its ecosystems and to accomplish the management objectives for which it is protected.
- The area should be significantly free of direct human intervention and capable of remaining so.
- The conservation of the area' s biodiversity should be achievable through protection and not require substantial active management or habitat manipulation (c.f. Category IV).

## **CATEGORY I b**

**Wilderness Area:** protected area managed mainly for wilderness protection.

### **Definition**

Large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.

## **Objectives of Management**

- to ensure that future generations have the opportunity to experience understanding and enjoyment of areas that have been largely undisturbed by human action over a long period of time;
- to maintain the essential natural attributes and qualities of the environment over the long term;
- to provide for public access at levels and of a type which will serve best the physical and spiritual well being of visitors and maintain the wilderness qualities of the area for present and future generations ; and

- to enable indigenous human communities living at low density and in balance with the available resources to maintain their lifestyle.

### **Guidance for selection**

- The area should possess high natural quality, be governed primarily by the forces of nature, with human disturbance substantially absent, and be likely to continue to display those attributes if managed as proposed.
- The area should contain significant ecological, geological, physiogeographic, or other features of scientific, educational, scenic or historic value.
- The area should offer outstanding opportunities for solitude, enjoyed once the area has been reached, by simple, quiet, non-polluting, and non-intrusive means of travel (i.e. non-motorized).
- The area should be of sufficient size to make practical such preservation and use.

## **CATEGORY II**

**National Park:** protected area managed mainly for ecosystem protection and recreation.

### **Definition**

Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.

### **Objectives of Management**

- to protect natural and scenic areas of national and international significance for spiritual, scientific, educational, recreational or tourist purposes
- to perpetuate, in as natural a state as possible, representative examples of physiographic regions, biotic communities, genetic resources, and species, to provide ecological stability and diversity
- to manage visitor use for inspirational, educational, cultural and recreational purposes at a level which will maintain the area in a natural or near natural state
- to eliminate and thereafter prevent exploitation or occupation inimical to the purposes of designation;
- to maintain respect for the ecological, geomorphologic, sacred or aesthetic attributes which warranted designation ; and

- to take into account the needs of indigenous people, including subsistence resource use, in so far as these will not adversely affect the other objectives of management.

### **Guidance for selection**

- The area should contain a representative sample of major natural regions, features or scenery, where plant and animal species, habitats and geomorphological sites are of special spiritual, scientific, educational, recreational and tourist significance.
- The area should be large enough to contain one or more entire ecosystems not materially altered by current human occupation or exploitation

### **CATEGORY III**

**Natural Monument:** protected area managed mainly for conservation of specific natural features.

#### **Definition**

Area containing one, or more, specific natural or natural /cultural feature which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

#### **Objectives of Management**

- to protect or preserve in perpetuity specific outstanding natural features because of their natural significance, unique or representational quality, and/or spiritual connotation ;
- to an extent consistent with the foregoing objective, to provide opportunities for research, education, interpretation and public appreciation ;
- to eliminate and thereafter prevent exploitation or occupation inimical to the purpose of designation ; and
- to deliver to any resident population such benefits as are consistent with the other objectives of management

### **Guidance for selection**

- The area should contain one or more features of outstanding significance (appropriate natural features include spectacular waterfalls, caves, craters, fossil beds, sand dunes and marine features, along with unique or representative fauna and flora ; associated cultural features might include cave dwellings,

cliff-top forts, archaeological sites, or natural sites which have heritage significance to indigenous peoples).

- The area should be large enough to protect the integrity of the feature and its immediately related surroundings.

## **CATEGORY IV**

**Habitat/Species Management Area:** protected area managed mainly for conservation through management intervention.

### **Definition**

Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.

### **Objectives of Management**

- to secure and maintain the habitat conditions necessary to protect significant species, groups of species, biotic communities or physical features of the environment where these require specific human manipulation for optimum management ;
- to facilitate scientific research and environmental monitoring as primary activities associated with sustainable resource management
- to develop limited areas for public education and appreciation of the characteristics of the habitats concerned and of the work of wildlife management;
- to eliminate and thereafter prevent exploitation or occupation inimical to the purposes of designation ; and
- to deliver such benefits to people living within the designated area as are consistent with the other objectives of management.

### **Guidance for selection**

- The area should play an important role in the protection of nature and the survival of species, (incorporating, as appropriate, breeding area, wetlands, coral reefs, estuaries, grasslands, forests or spawning areas, including marine feeding beds).
- The area should be one where the protection of the habitat is essential to the well-being of nationally or locally important flora, or to resident or migratory fauna.

- Conservation of these habitats and species should depend upon active intervention by the management authority, if necessary through habitat manipulation (c.f. Category Ia).
- The size of the area should depend on the habitat requirements of the species to be protected and may range from relatively small to very extensive.

## **CATEGORY V**

**Protected Landscape/Seascape:** protected area managed mainly for landscape/seascape conservation and recreation.

### **Definition**

Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.

### **Objectives of Management**

- to maintain the harmonious interaction of nature and culture through the protection of landscape and/or seascape and the continuation of traditional land uses, building practices and social and cultural manifestations;
- to support lifestyles and economic activities which are in harmony with nature and the preservation of the social and cultural fabric of the communities concerned
- to maintain the diversity of landscape and habitat, and of associated species and ecosystems
- to eliminate where necessary, and thereafter prevent, land uses and activities which are inappropriate in scale and/or character;
- to provide opportunities for public enjoyment through recreation and tourism appropriate in type and scale to the essential qualities of the areas
- to encourage scientific and educational activities which will contribute to the long term well-being of resident populations and to the development of public support for the environmental protection of such areas ; and
- to bring benefits to, and to contribute to the welfare of, the local community through the provision of natural products (such as forest and fisheries products) and services (such as clean water or income derived from sustainable forms of tourism).

### **Guidance for selection**

- The area should possess a landscape and/or coastal and island seascape of high scenic quality, with diverse associated habitats, flora and fauna along with manifestations of unique or traditional land-use patterns and social organisations as evidenced in human settlements and local customs, livelihoods, and beliefs.
- The area should provide opportunities for public enjoyment through recreation and tourism within its normal lifestyle and economic activities.

## **CATEGORY VI**

Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems.

### **Definition**

Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

### **Objectives of Management**

- to protect and maintain the biological diversity and other natural values of the area in the long term
- to promote sound management practices for sustainable production purposes ;
- to protect the natural resource base from being alienated for other land-use purposes that would be detrimental to the area's biological diversity ; and
- to contribute to regional and national development.

### **Guidance for selection**

- The area should be at least two-thirds in a natural condition, although it may also contain limited areas of modified ecosystems; large commercial plantations would not be appropriate for inclusion.
- The area should be large enough to absorb sustainable resource uses without detriment to its overall long-term natural values.

SOURCE: IUCN (1994) Guidelines for Protected Area Management Categories. CNPPA with the assistance of WCMC., IUCN, Gland, Switzerland and Cambridge, UK x+ 261 pp.

## APPENDIX IV: FACTORS OR CRITERIA THAT CAN BE USED IN DECIDING WHETHER AN AREA SHOULD BE INCLUDED IN A MARINE PROTECTED AREA OR IN DETERMINING BOUNDARIES FOR A MARINE PROTECTED AREA

### **Naturalness**

- The extent to which the area has been protected from, or has not been subject to human induced change

### **Biogeographic importance**

- Contains either rare biogeographic qualities or is representative of a biogeographic "type" or types.
- Contains unique or unusual geological features.

### **Ecological importance**

- Contributes to maintenance of essential ecological processes or life-support systems, e.g. source for larvae for downstream areas.
- Integrity
- The degree to which the area either by itself or in association with other protected areas, encompasses a complete ecosystem.
- Contains a variety of habitats.
- Contains habitat for rare or endangered species.
- Contains nursery or juvenile areas.
- Contains feeding, breeding or rest areas.
- Contains rare or unique habitat for any species.
- Preserves genetic diversity i.e. is diverse or abundant in species terms.

### **Economic importance**

- Existing or potential contribution to economic value by virtue of its protection e.g. protection of an area for recreation, subsistence, use by traditional

inhabitants, appreciation by tourists and other or as a refuge nursery area or source of supply for economically important species.

### **Social importance**

- Existing or potential value to the local, national or international communities because of its heritage, historical, cultural, traditional aesthetic, educational or recreational qualities.

### **Scientific importance**

- Value for research and monitoring.

### **International or National significance**

- It is or has the potential to be listed on the World or a national Heritage List or declared as a Biosphere Reserve or included on a list of areas of international or national importance or is the subject of an international or national conservation agreement.

### **Practicality/Feasibility**

- Degree of isolation from external destructive influences.
- Social and political acceptability, degree of community support.
- Accessibility for education, tourism, recreation.
- Compatibility with existing uses, particularly by locals.
- Ease of management, compatibility with existing management regimes.

SOURCE: Kelleher, G. and Kenchington, R. (1992). Guidelines for Establishing Marine Protected Areas. A Marine Conservation and Development Report. IUCN, Gland, Switzerland. Vii + 79 pp

## **APPENDIX V: THE SEQUENCE OR HIERARCHY OF DECISION-MAKING IN ESTABLISHING AND MANAGING AN MARINE PROTECTED AREA**

The sequence or hierarchy of decision-making in establishing and managing an Marine Protected Area is:

Stage 1. Legal establishment of boundaries

Stage 2. Zoning

Stage 3. Enactment of zoning regulations

Stage 4. Specific site planning

Stage 5. Specific site regulation

Stage 6. Day-to-day management

Stage 7. Review and revision of management

SOURCE: Kelleher, G. and Kenchington, R. (1992). Guidelines for Establishing Marine Protected Areas. A Marine Conservation and Development Report. IUCN, Gland, Switzerland, vii + 79 pp

#### APPENDIX VI: COMMUNITY PARTICIPATION IN PROTECTED AREA PLANNING AND MANAGEMENT

Individuals or local communities may participate, inter alia, as:

- Members of planning committees, management and advisory.
- Members of Steering Committees.
- Guards and guides.
- Concessionaries, restaurants and hotels owners, service suppliers.
- Infrastructure building designers, supervisors and workers.
- Sellers of craftsmanship, souvenirs, and similar products.
- Social and biological science researchers, inventories, and vigilance.
- Members of conflict-resolving groups or round tables.
- Full participants in sustainable development projects.

- Members of resource user' s organized groups.
- Public and/or private conservation-area managers.
- Promoters of public awareness and fund-collecting activities.
- Full-right beneficiaries for resource use in exchange for management and/or support responsibilities.

SOURCE: IUCN and IDB (1993) Parks and Progress. Washington, D.C., USA, xiv + 258pp.

**APPENDIX VII: DESIGNATION OF THE MANAGEMENT CATEGORIES USED IN THE WIDER CARIBBEAN REGION AND THEIR EQUIVALENCE WITH THE IUCN SYSTEM**

Country	Designation of Protected Area Categories	Equivalence with IUCN Category System
Anguilla (UK)	National Park	II
Antigua and Barbuda	National Park	II
	Marine National Park	II
Netherlands Antilles (Netherlands)	National Park	II
	Marine Park	VI
	Underwater Park	VI
Bahamas	National Park	II
	Managed Nature Reserve	IV
	Wild Bird Reserve	IV
Barbados	Marine Reserve	II

Belize	National Park Nature Reserve Wildlife Sanctuary Marine Nature Reserve National Monument Forest Reserve Archaeological Reserve	II I,IV IV II II VI IV
Colombia	Natural National Park Indigenous Reserve Natural Reserve Natural National Reserve Forest Reserve Protection Forest Reserve Biosphere Reserve Resguardo Fauna and Flora Sanctuary Special Management Area	II VI IV I VI V VI VI IV VI
Costa Rica	National Park Biological Reserve Forest Reserve Anthropological Reserve Biosphere Reserve	I,II,IV I,IV VI VI VI

	Faunal Refuge	IV
	Protection Zone	VI
Country	Designation of Protected Area Categories	Equivalence with IUCN Category System
Cuba	Nature Reserve	I
	National Park	II
	Ecological Reserve	II
	Outstanding Natural Element	III
	Faunal Refuge	IV
	Managed Floristic Reserve	IV
	Protected Natural Landscape	IV
	Managed Resource Protected Area	VI
	Special Region of Sustainable Development/Multiple Use Area	
Dominica	National Park	II
	Forest Reserve	VI
	Protected Forest	VI
Grenada	Forest Reserve	VI
Guadeloupe (France)	Nature Reserve	I
	National Park	II

Guatemala	National Park	II,III,IV,V,VI
	Biotope	IV,VI
	Forest Reserve	VI
	Cultural Monument	III
	Biosphere Reserve	I,VI
Guyana	National Park	II
French Guiana (France)	State Biological Reserve	VI
Haiti	Natural National Park	II,V
Honduras	National Park	II
	Biological Reserve	IV
	Wildlife Refuge	IV
	Protected Area	IV
	Forest Reserve	II,VI
	Multiple Use Reserve	VI
	Biosphere Reserve	VI
Cayman Islands (UK)	Ecological Zone	I
	Reserve	IV
	Marine Park	II,IV
	Replenishment Zone	IV
Turks and Caicos Islands	National Park	II, IV
(U K)	Nature Reserve	II,III,IV
	Sanctuary	IV
	Area of Historical Interest	V

British Virgin Islands (U K)	Bird Sanctuary	IV
	Natural Monument	III
	Forest Park	II
U. S. Virgin Islands (USA)	National Park	II
	National Wildlife Refuge	IV
	National Monument	III
	Biosphere Reserve	VI

Country	Designation of Protected Area Categories	Equivalence with IUCN Category System
Jamaica	Game National Park Reserve	II
	Marine Park	VI
	Forest Reserve	II
		VI
Martinique (France)	Nature Reserve	I
	Regional Nature Park	V

Mexico	National Park	II,III,V
	Biosphere Reserve (National)	I,II,V
	Special Biosphere Reserve	I,III,IV,VI
	Reserva de la Biosfera	VI
	Marine Reserve	IV
	Faurial Reserve	I
	Cetacean Sanctuary	I
	Refuge	IV
	Natural Monument	I
	Natural and Typical Biotope	IV
	Park	II
	Forest Reserve	VI
Protection Area for Wild Flora and Fauna	IV	
Montserrat (U.K.)	National Park	II
Nicaragua	National Park	II
	Biological Reserve	I, IV
	Wildlife Refuge	IV, VI
	Wildland Area	VI
	National Natural Resource Reserve	VI
	National Natural Reserve	III,IV,VI

Panamá	National Park	II
	National Marine Park	II
	Scientific Reserve	I
	Wildlife Refuge	IV
	Natural Monument	II
	Natural Park	V
	Forest Reserve	VI
	Protection Forest	VI
	Indigenous Reserve	VI
	Water Production Reserve	VI
Recreation Area	V	
Puerto Rico (U.S.A.)	Natural Reserve	IV
	National Wildlife Refuge	IV
	Wildlife Refuge	IV
	National Estuarine Research Reserve	IV
	Natural Area	IV
	National Forest	VI
	Commonwealth Forest	VI
	Biosphere Reserve	VI
Dominican Republic	National Park	II,V
	Scientific Reserve	IV,V
	Cetacean Sanctuary	IV
	Scenic Route	V

St Kitts and Nevis	National Park	II
St Vincent and The Grenadines	Marine Reserve Reserve	IV IV
St Lucia	Nature Reserve Reserve Sanctuary Forest Reserve	IV VI IV VI
Surinam	Nature Reserve Nature Park Multiple Use Management Area	II, IV II VI
Trinidad and Tobago	Nature Reserve Game Sanctuary Prohibited Area	I IV I
Venezuela	National Park Biosphere Reserve (National) Faunal Reserve Faunal Refuge Natural Monument Hydrological Reserve Protective Zone	II VI VI IV III V V

SOURCE:

- Protected Areas of The World. Compiled by the World Conservation Monitoring Centre. Vol 4., 1992.
- Atlas Ambiental del Caribe. CESIGMA. División Am6rica. 1995.

- IUCN (1994). 1993 United Nations List of National Parks and Protected Areas. Prepared by WCMC and CNPPA. IUCN, Gland, Switzerland and Cambridge, U.K., x1vi + 315pp.
- Status of Protected Area Systems in the Wider Caribbean. CEP Technical Report No. 36. UNEP, Caribbean Environment Programme, Kingston, Jamaica.

#### APPENDIX VIII: MOST COMMON APPROACHES ON PROTECTED AREA MANAGEMENT IN THE WIDER CARIBBEAN REGION

IUCN Management Category	Total of equivalent areas per category	%	Most common names
I	32	3	Nature Reserve Scientific Reserve Biological Reserve Faunal Reserve Natural National Reserve Biosphere Reserve Ecological Zone Prohibited Area Cetacean Sanctuary Natural Monument National Park

II	196	19	National Park National Marine Park Marine Park National Marine Park Natural Park Park Marine Reserve Natural Marine Reserve Ecological Reserve Forest Reserve Natural Reserve Biosphere Reserve Natural Monument
III	25	2	Natural Monument Cultural Monument Outstanding Natural Element National Natural Reserve Natural Reserve Special Biosphere Reserve Natural Park National Park

IV	188	18	<p>Faunal Refuge</p> <p>Wildlife Refuge</p> <p>National Wildlife Refuge</p> <p>Refuge</p> <p>Wildlife Sanctuary</p> <p>Fauna and Flora Sanctuary</p> <p>Bird Sanctuary</p> <p>Cetacean Sanctuary</p> <p>Game Sanctuary</p> <p>Sanctuary</p> <p>Wild Bird Reserve</p> <p>Archaeological -Reserve</p> <p>Managed Floristic Reserve</p> <p>Marine Reserve</p> <p>Biological Reserve</p> <p>Managed Nature Reserve</p> <p>Nature Reserve</p> <p>Special Biosphere Reserve</p> <p>National Natural Reserve</p> <p>National Estuarine Research Reserve</p> <p>Scientific Reserve</p> <p>Reserve</p> <p>Protection Area for Wild Flora and</p>
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			<p>Fauna</p> <p>Protected Area</p> <p>Natural Area</p> <p>Biotope</p> <p>Natural and Typical Biotope</p> <p>Replenishment Zone</p> <p>Marine Park</p> <p>National Park</p>
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V	111	11	Protected Natural Landscape Recreation Area Area of Historical Interest Scenic Route Protective Zone Protection Forest Reserve Hydrological Reserve Scientific Reserve Biosphere Reserve (National) National Park Natural National Park Regional Nature Park
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VI	493	47	Managed Resource Protected Area Multiple Use Management Area Special Management Area Wildland Area Forest Reserve Indigenous Reserve Biosphere Reserve Anthropological Reserve Multiple Use Reserve State Biological Reserve Special Biosphere Reserve Water Production Reserve Faunal Reserve Game Reserve National Natural Resource Reserve National Natural Reserve Reserve Protected Forest Protection Forest National Forest Commonwealth Forest Biotope
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			Resguardo Underwater Park Park Marine National Park
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**SOURCE:**

- Protected Areas of the World. Compiled by The World Conservation Monitoring Centre. Volume 4. December 1992.
- Atlas Ambiental del Caribe. CESIGMA. División América. 1995
- IUCN (1994). 1993 United Nations List of National Parks and Protected Areas. Prepared by WCMC and CNPPA. IUCN, Gland, Switzerland and Cambridge, U.K. xx, xLvi + 315pp.
- Status of Protected Area Systems in the Wider Caribbean Region. CEP Technical Report No. 36. UNEP, Caribbean Environment Programme, Kignston, Jamaica, 1996.

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## APPENDIX IX: SOURCES OF INCOME FOR THE MANAGEMENT OF NATURAL PROTECTED AREAS

SOURCES AND MECHANISMS	FORMS OF FUNDING
<b>1. GOVERNMENT RESOURCES</b>  budget  budget lines  transfer of resources  debt swaps  fees for use of water and electricity  stamp duty  stamps	appropriations  appropriations  transfers, services  transfers, bonds  taxes, rates  exemption  exemption
<b>2. INTERNATIONAL RESOURCES</b>  funding proposals  collaborative projects  agreements  joint implementation  volunteers	donation, loan, grant  donation, loan, grant, service  loans, services  contract  services
<b>3. NATIONAL PRIVATE SECTOR RESOURCES</b>	
funding proposals  co-financing of projects  agreements  gifts by will	donation, service  donation, service  service, loan  assets

volunteers	service
royalties	fees
membership	fees

<b>4. RESOURCES GENERATED BY THE PROTECTED AREA AND ITS MANAGEMENT</b>	
exploitation of resources	
<ul style="list-style-type: none"> <li>• water and electricity services</li> <li>• mining</li> <li>• forestry products</li> <li>• fauna</li> </ul>	permit, concession permit, concession permit, concession permit, concession
research	
<ul style="list-style-type: none"> <li>• research fees</li> <li>• lodging</li> <li>• food</li> <li>• transportation (boats, horses, etc.)</li> <li>• laboratories, equipment</li> <li>• assistants</li> </ul>	fees fees, concession fees, concession fees, lease, concession fees, lease, concession fees
installation of equipment and infrastructure	fees, lease, user permit
educational activities	

<ul style="list-style-type: none"> <li>• use of facilities</li> <li>• training and consultancy</li> <li>• educational material</li> </ul>	fees sale sale
chemical industry	
<ul style="list-style-type: none"> <li>• exploration</li> <li>• product development</li> </ul>	contracts contracts
commercial advertising	contracts
recreation and tourism	
<ul style="list-style-type: none"> <li>• admission</li> <li>• anchorage</li> <li>• lodgings</li> <li>• food</li> <li>• transportation (boats, horses, etc.)</li> <li>• rental of equipment</li> <li>• shops (souvenirs)</li> <li>• museums and exhibition rooms</li> <li>• information (brochures, maps, videos)</li> <li>• sporting activities and festivals</li> <li>• licenses (hunting, fishing and tourism operations)</li> </ul>	fees fees fees, concession fees, concession fees, lease, concession lease, concession sale, concession, lease fees sale fees, lease, concession fees

## DESCRIPTION OF FORMS OF FUNDING

### **Taxes:**

Although these usually refer to duties or rates paid to support State expenditure, they may be imposed upon specific activities and in general the resources generated thereby have a specific objective one of which may be the management of protected areas. Usually taxes are linked to the development of commercial activities associated with these areas, such as tourism, fishing or forestry.

As in most countries where taxes are imposed by the Legislature, they depend to a great extent on political will and consensus regarding the nation's need to support the protected natural areas.

It should be pointed out that tax exemptions are a mechanism used to encourage conservation activities on private property. In Costa Rica, for example, there is a land tax exemption applicable to land set aside by the proprietor for the protection of natural resources.

### **Rates:**

The payment made upon receiving a public service. In relation to protected areas this is a mechanism which may be used to recover costs incurred in the protection and conservation of sources of drinking water and hydroelectric power.

As in the above cases its usefulness largely depends on political support as well as public awareness of the benefits of natural protected areas.

### **Lease:**

An agreement under the terms of which the lessor (the protected area) grants to a physical or legal person (the lessee) the use and enjoyment of certain infrastructure or a specific location. In this field legislation varies a great deal from one country to another. It is, nevertheless, an appropriate mechanism where facilities such as shops and restaurants are used by visitors, where there are buildings in the protected area that cannot be operated by it or where it is deemed more advantageous to enter into this type of agreement.

Such an agreement requires the tenant to pay rent for the right to use the leased premises. This modality is used, for example, in cases where persons interested in developing conservation activities on their lands but lack the financial or administrative ability to carry them out, lease their land, often for a nominal sum, to a conservationist organization so that it may be included in their conservation programmes.

### **Administrative concession:**

A mechanism by which the opportunity is given to an individual to provide a service or develop lands in areas where this function by law belongs to the State. Under this type of contract the concessionaire (person carrying out the activity) performs the contract in the manner of a public body exactly as if it were being done by the State

and pays a specific fee for this right. The contract specifies the agreed conditions, the amounts involved and the duration.

Depending on the legal framework, therefore, functions which are deemed to be inherent to the State such as providing security for the visitor or managing the area, are granted by concession and not leased.

In this regard, care should be exercised to achieve some harmony between the amount paid for the concession and the amount that the concessionaire will earn by exploiting the goods or service. One can mention as an example the study by Bumpers in 1991, which indicates that the United States National Park Service authorized about 560 concessions of various types and sizes, generating more than US\$500million annually. Of this amount, the State receives only US\$1 2.5 million under the terms of the respective contracts.

### **Permits:**

Although permits are construed solely as authorization to develop an activity, in some countries they are a mechanism which can facilitate administration and generate resources for the management of areas.

The grant of a permit, for example, can facilitate the provision of a service by an NGO in a State protected area. Some contracts granting a permit stipulate that profits earned by the provision of services shall be applied to programmes for the management and development of the protected area. One such case is the agreement between the Foundation for the Development of the Cordillera Volcánica Central (Central Volcanic Mountain Range) and the Central Volcanic Mountain Range Conservation Area in Costa Rica, to operate a nature shop and a soda fountain in the Volcan Poas National Park. The concept of a concession does not apply as these activities are not considered part of the non-delegable functions of the State within the national parks system.

### **License:**

The right to develop a specific activity for which a previously established fee has been paid. Licenses are used in protected areas, the type involved depending on the particular area. Licenses such as hunting and fishing licenses can be issued to individuals (example: Costa Rica and Kenya) or to businesses, as in the case of licenses which allow tourism operators to use protected areas or some of their services (example: Argentina).

The cost of the license is itself a mechanism to promote or discourage the development of a particular activity.

**Fees:**

The price paid for goods or services. These are set by the administrative entity in an attempt to recover development costs, maintain a specific service and, in many cases, generate additional income for the management of the area.

Fees are the mechanism most commonly used in protected areas and are fixed in accordance with the various uses granted. Thus there are fees relating to tourism (entry fees, lodgings, anchorage, transportation, etc.) or to research (research fees, use of facilities, etc.).

SOURCE: Experiences and general guidelines on revenue generation by protected areas UNEP (OCA)/CAR WG. 19/Inf.3. (Under publication as a CEP Technical Report).

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