

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

Meeting the Challenges of Urban Park Management: A Study of Two Sites

A thesis completed and submitted
in partial fulfilment of the requirements
for the degree of
Master of Philosophy in Resource and Environmental Planning

Massey University, Palmerston North,
New Zealand

MARIA THERESA SALVACION MALING-EMANA

2001

Abstract

There are key environmental and management issues relevant to protected areas and national parks apparent world-wide such as: management of environmental quality, biodiversity conservation, management of visitor use and impacts, allocation of access, law enforcement and monitoring, facility design, park financial viability, and community development.

Today, the trend has changed towards more specific and strategic management plans. Greater emphasis is put towards meeting targets and objectives and park managers are encouraged to have a direct hand in the preparation of management plans.

Visitor impact is also creating problems in park management that was unforeseen in the past. The management of visitors may be viewed as an integral part of the operational network of service tasks, service standards, and service delivery systems of recreation sites. Comprehensive planning and on-going monitoring underpin much of the success in visitor management. Whether park management decides to use tools such as hardening, hedging, or flexing, controlling numbers and type of visitor, interpretation/information education, or even a combination of these, the vital ingredient is to have a framework for visitor management.

Collaborative management is not a new approach and is the most recommended technique to achieve most management objectives within protected areas today. Collaborative management stands on the concept of “common good.” Because it is a process, collaborative management requires on-going review and improvement. Its most important result is not a management plan but a management partnership that is capable of effectively responding to various needs and addressing boundless problems.

In the Philippines where there is more uncertainty about protected areas management, the Department of Environment and Natural Resources has the primary responsibility for the establishment and management of protected areas. The Quezon Memorial National Park, classified as a strictly protected area and whose management objectives are categorized as a national park, is one example. Two urban parks that originally formed part of QMNP are the subjects of this study. This research compares and evaluates the management schemes of these parks based on: (a) park management, (b) visitor management, and (c) biodiversity conservation against the criteria set by international and local guidelines. It also makes recommendations on how to effect changes in the management of these urban parks to achieve environmental conservation goals.

ACKNOWLEDGEMENT

The author wishes to thank from the bottom of her heart the following people who in one way or another, big or small, contributed to the completion of this research:

- Department of Resource and Environmental Planning, Massey University, Palmerston North:

Mr. Peter Korsley, Supervisor
Dr. Johanna Rosier, Co-Supervisor
Ms. Rachel Summers, GIS Consultant
Mr. Derek Williams, Acting Department Head
Mr. Mark Bellingham, Lecturer
Ms. Sue Edwards, Department Secretary
Ms. Elaine Bristol, Department Administrator

- New Zealand Ministry of Finance and Trade
- International Students' Office, Massey University, Palmerston North
- Department of Environment and Natural Resources, Philippines:

Assistant Secretary Sabado J. Batcagan and the staff of the Asec's office
Ms. Marilyn Piñol, Chief, Planning Unit of ERDB
Ms. Ruby Buen/ Ms. Smelda Matubis of the Policy Division
Ms. Zenaida Muñoz/ Ms. Melinda Capistrano and the staff of the
Research and Statistics Division
Ms. Lilia Rastrores and the staff of the Planning and Programming Division
Ms. Ligaya Dionisio, Records Division

- Quezon Memorial Circle:

Atty. Charito Planas, President and Manager, Quezon City Parks
Development Foundation, Incorporated

Mr. Enrique Avanceña, QMC Board Member

Ms. Rhodora Sermeno, OGC-Quezon Museum and the staff of NCS

- Wildlife Rescue and Rehabilitation Center, PAWB/DEWR:

Director Jesus Domingo, NAPPWRC

Ms. Vina Macatangay and the staff of the Office of the Director

Director Reynaldo Bayabos, PAWB

Assistant Director Theresa Mundita Lim, PAWB

Ms. Priscilla Calimag and the staff of PAWB

Mr. Romulo del Mundo and the staff of the NAPPWRC

- Quezon City Parks Development and Administration Division:

Engr. Zaldy A. dela Rosa, Acting City Department Head

Ms. Rouella Francisco and the staff of the Records Unit

Architect Ernesto J. Narito plus the GIS Unit of the Quezon City Planning
and Development Office

- The Filipino Community in Palmerston North especially
Gladys Agatep, John and Mely Holden and Tony Evans

- The Christian Community in Palmerston North, special mention to
Ferry and Jenny McGrath, Kingston Street Chapel and my Care Group

- Family and friends in the Philippines, with very special thanks to
Bobby and Sonia Maling, and Ojing and Luz Maling

**To,
FOR,
BECAUSE OF**

GOD

JONATHAN CHRISTOPHER

JEREMY RIZ

Jericho Anjelo

and

ROB

Table of Contents

Page

Abstract.....	i
Acknowledgements.....	ii
Table of Contents.....	v
Definition of Terms.....	viii
List of Abbreviations.....	xiii
List of Appendices.....	xv
List of Figures.....	xvi
List of Tables.....	xvii

Chapter 1. Introduction

Background

1.1 Definitions of National Parks and Protected Areas.....	1
1.2 Management Objectives of Protected Areas.....	3
1.3 Management Issues in Protected Areas.....	6

Chapter 2. The Research Study

2.1 Rationale.....	10
2.1.1 Legal Mandates for Protected Areas.....	10
2.1.2 Administration and Management of Protected Areas.....	11
2.2 Research Problem.....	12
2.3 Research Objectives.....	13
2.4 Research Methodology.....	17
2.4.1 Literature Review.....	17
2.4.2 Survey of Park Visitors and Interviews with Management Staff.....	18
2.4.3 Use of Maps, Videos, Photographs and Historical/Legal Documents.....	18
2.5 Conceptual Framework.....	19

Chapter 3. The Sites

3.1 The DENR Wildlife Rescue and Rehabilitation Center.....	22
3.1.1 Geographic Location.....	22
3.1.2 Topography and Physiography.....	25
3.1.3 Administration.....	27
3.1.4 Plans and Programmes.....	27
3.1.5 Problems and Issues.....	31
3.2 The Quezon Memorial Circle.....	35
3.2.1 Geographic Location.....	35
3.2.2 Topography and Physiography.....	37
3.2.3 Administration.....	38
3.2.4 Plans and Programmes.....	39
3.2.5 Problems and Issues.....	39
3.3 Comparison of the Sites.....	44

Chapter 4. Park Management within Urban Protected Areas		Page
4.1	Definitions.....	52
	4.1.1 Parks or Recreation Areas.....	52
	4.1.2 Park Manager.....	53
	4.1.3 Management Plans.....	53
4.2	The Purpose of Management Plans.....	55
4.3	Types of Management Plans.....	56
4.4	Planning and Implementation Process.....	58
	4.4.1 Other Options for Implementation.....	62
	4.4.1.1 Hedging.....	62
	4.4.1.2 Flexing.....	63
	4.4.1.3 Synoptic Planning.....	63
	4.4.1.4 Incremental Planning.....	64
	4.4.1.5 Transactive Planning.....	65
	4.4.1.6 Adaptive Management.....	65
	4.4.1.7 Integrated Management.....	66
	4.4.1.8 Management by Objectives.....	67
	4.4.1.9 Benefit-based Management.....	67
	4.4.1.10 Benchmarking.....	68
4.5	Public Consultation and Participation.....	71
	4.5.1 Conflict Resolution Between Stakeholders.....	73
	4.5.2 Establishing partnerships.....	76
4.6	Monitoring and Evaluation.....	77
	4.6.1 Management Information System.....	79
4.7	Physical Planning and Zoning.....	79
4.8	Continuing Research.....	82
4.9	Summary and Conclusions.....	86

Chapter 5. Visitor Management in Parks within Protected Areas

5.1	Recreation Opportunity Spectrum (ROS).....	91
5.2	Limits of Acceptable Change (LAC).....	92
	5.2.1 Carrying capacity as a LAC Method of Assessment.....	93
5.3	Visitor Impact Management (VIM).....	98
5.4	Visitor Activity Management Process (VAMP).....	105
	5.4.1 Interpretation as a Main Component of VAMP.....	108
5.5	Comparison of the Four Visitor Management Frameworks.....	111
5.6	Summary and Conclusions.....	112

Chapter 6. Biodiversity Conservation and Collaborative Management in Urban Protected Areas

6.1	Definitions.....	121
	6.1.1 Biodiversity or Biological Diversity.....	121
	6.1.2 Stakeholders.....	122
	6.1.3 Partnership.....	122
	6.1.4 Collaborative Management.....	123
6.2	Why Biodiversity Conservation.....	125
6.3	Obstacles to Biodiversity Conservation.....	127
6.3	Collaborative Management as the Best Option.....	130

6.4	Issues and Problems with Collaborative Management.....	132
6.4.1	Who would be in control?.....	132
6.5.2	To whom should benefits accrue?.....	132
6.5.3	What are the roles of each stakeholder?.....	133
6.5.4	What other tools can be used?.....	134
6.5.5	Why is monitoring important?.....	135
6.5.6	What are the constraints?.....	136
6.5.7	What are the benefits?.....	137
6.6	Summary and Conclusions.....	138

Chapter 7. Discussion of Survey Results

7.1	Discussion of Interviews with Park Management Staff.....	142
7.1.1	DENR Wildlife Rescue and Rehabilitation Center.....	142
7.1.2	Quezon Memorial Circle.....	143
7.1.3	Other Inputs from Park Management Respondents.....	144
7.2	Discussion of Survey Results.....	146
7.2.1	On Park Management.....	146
7.2.2	On Visitor Management.....	151
7.2.3	On Biodiversity Conservation.....	153

Chapter 8. Recommendations

8.1	Park Management.....	154
8.1.1	Park Administration.....	154
8.1.2	Human Resources.....	157
8.1.3	Physical Planning.....	159
8.2	Visitor Management.....	159
8.3	Biodiversity Conservation.....	160
8.4	Collaborative Management: A Solution.....	161
8.4.1	Potential Benefits and Obstacles to Collaborative Management.....	166
8.5	Suggestions for Further Research.....	169

Appendices

Appendix 1: The NIPAS ACT.....	171
Appendix 2: Park Visitor Questionnaire – WRRC	179
Appendix 3: Park Visitor Questionnaire – QMC	183
Appendix 4: Park Management Questionnaire	187
Appendix 5: Vegetative Cover at WRRC	189
Appendix 6: List of Fauna Found at WRRC	192
Appendix 7: Proclamation No. 312	199
Appendix 8: Tri-Partite Memorandum of Agreement Between NHI, DOT and QC.....	202
Appendix 9: Summary of Park Management Interviews – QMC	205
Appendix 10: Summary of Park Management Interviews – WRRC	205
Appendix 11: Protected Area Suitability Assessment	207
Appendix 12: Letter of Introduction and Request for the Conduct of the Research Study.....	209

Bibliography.....	214
-------------------	-----

Definition of Terms

Activity-oriented, structured recreation areas - usually restricted to urban or suburban parks that depend on certain constructed features or facilities such as play fields with an organized formal structure imposed by the facility and shored up by rules.

Accountability - the clear and transparent assumption of responsibilities, the capacity and willingness to respond about one's own actions (or inactions) and the acceptance of relevant consequences.

Amenities - structures or services which are available to the public such as water system, waste disposal system, power supply, road and trail system, fences, boundaries, parking areas, camping grounds, entry/exit gate, look-out towers, administration buildings and sub-stations, comfort station, visitor station, visitor center, view deck and sheds among others

Area – refers to the total area applied/titled under one particular public land application

Biodiversity – (or biological diversity) an umbrella term for the degree of nature's variety and encompasses all species of plants, animals, micro-organisms and the ecosystems and ecological processes of which they are part

Buffer zones - identified areas outside the boundaries of and immediately adjacent to designated protected areas that need special development control in order to avoid or minimize harm to the protected area

Carrying capacity – that character of use that can be supported over a specified time by an area developed at a certain level without causing excessive damage to either the environment or the experience of the visitor; the ability of a recreation resource to sustain or support a user population at a measurable threshold based on upon specified goals and standards

Collaborative partnership - seeks to achieve mutually compatible objectives with the various groups

Collaborative management (also referred to as co-management, participatory management, joint management, shared-management, multi-stakeholder management or round-table agreement) - refers to a partnership by which various stakeholders agree on sharing among themselves the management functions, rights and responsibilities for a territory or set of resources under protected status

Consultative partnership - involves seeking advice by forming committees or councils from individuals, groups and other organizations outside of the resource management agency

Contributory partnership - involves the sponsorship or support of a public or private organization

Donation - refers to the act of liberality whereby a party gives a certain amount to another party or in other cases, disposes an animal or animals in favour of another party who accepts it

Entrance fee - a fee or an amount to be imposed upon entrance to any national park and other protected area

Facilities - structures available for rent such as kiosks, picnic tables, amphitheatre, cottages and the like

Fauna - refers to all species of animals found in a given area

Flora - refers to all species of plants found in a given area

Game refuge and bird sanctuary - refers to a forest land designated for the protection of game animals and fish, and closed to hunting and fishing in order that the excess population may flow and restock surrounding areas

General Park Management Plan - a short, comprehensive, and non-technical document for public information.

Hardening – a procedure that usually involves the surfacing of access routes (like walking tracks) and related facilities (like picnic areas) and increasing the number and range of facilities

Heritage - represents the things we want to keep; a network of interrelated elements – tangible and intangible, natural and cultural (human), personal and collective

Interpretation - an activity that aims to reveal meanings and relationships as an art, and revelations based upon information whose aim is not instruction but provocation

Legitimacy – refers to public confidence in and support for the governing agency.

Limits of Acceptable Change (LAC) - concerned with identifying opportunities for recreational activities by developing management objectives, indicators, and standards to define limits of change for a wide range of possible resource uses

Management Plan Detail - a detailed, technical document for management specialists.

Management plans - tools used to indicate how a resource is to be used, developed and managed

Monitoring - the periodic collection and evaluation of data relative to stated project goals, objectives and activities and is typically used as a technique for assessing long-term trends affecting the resource, the visitor experience, or the profile of the visitor, or as a method of assessing particular issues of management concern, such as visitor impact

National Integrated Protected Areas Systems (NIPAS) - the Philippine classification and administration of all designated protected areas to maintain essential ecological processes and life-support systems, to preserve genetic diversity, to ensure sustainable use of resources found therein, and to maintain their natural conditions to the greatest extent possible

National park - a relatively large area (a) where one of several ecosystems are not materially altered by human exploitation and occupation; where plant and animal species, geomorphological sites and habitats are of specific scientific interest, educational and recreational interest or which contains a natural landscape of great beauty; (b) the highest competent authority of the country has taken steps to prevent or to eliminate as soon as possible exploitation or occupation in the whole area and to enforce effectively the respect of ecological, geomorphological or aesthetic features which have led to its establishment; (c) visitors are allowed to enter, under special conditions, for inspirational, educational, cultural and recreational purposes

Natural biotic area/reserve - an area set aside to allow the way of life of societies living in harmony with the environment to adapt to modern technology at their own pace

Natural monument/landmark - a relatively small area focused on protection of small features to protect or preserve nationally significant natural features on account of their special interest or unique characteristics

Natural park - relatively large area not materially altered by human activity where extractive resource uses are not allowed and maintained to protect outstanding natural and scenic areas of national or international significance for scientific, educational and recreational use

Operational partnership - makes partners share roles in the actual undertaking to achieve a set goal

Parks - tracts of tax-supported land and water, established primarily for the benefit and enjoyment of the public and maintained essentially for outdoor recreation

Park manager - represents the person in charge of the park's management; can be a director, superintendent, supervisor, chief, warden or staff whose responsibility is overseeing the management of the park

Partnership - refers to a group of individuals and/or organizations working together to address land use, natural resource, or environmental issues at the local level

Plants - refers to all classes of species of the rare and flowering plants including orchids, ferns, lycopods or club moss and other wild plants in the Philippines as defined

Power – the acknowledged legal capacity to act.

Practical plan – produced to provide park personnel with a working document that can continually be consulted to provide day-to-day guidance in the management of park and recreation resources; usually short, succinct, and to the point with only those pictorials and graphics necessary to implement the plan; written to be easily understood and identifies specific implementation actions.

Prestige plan – a plan generated to impress someone; always extensively illustrated with many high quality photographs and graphic presentations.

Protected area - an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means; identified portions of land and water set aside by reason of their unique physical and biological significance, managed to enhance biological diversity and protected against destructive human exploitation

Protected landscapes/seascapes - areas of national significance which are characterized by the harmonious interaction of man and land while providing opportunities for public enjoyment through recreation and tourism within the normal lifestyle and economic activity of these areas

Public plan – produced to present management data to the general public for comments and recommendations

Recreation - an activity that refreshes the body, spirit or mind undertaken during leisure time in an outdoor or natural setting

Recreation areas - forest land reservation which has been set aside for the protection, reservation, development and public enjoyment of natural scenery, primitive or natural landscape, wildlife, natural phenomena and other natural resources.

Recreation Opportunity Spectrum (ROS) - a conceptual framework for encouraging diversity in outdoor recreation opportunities that explicitly recognizes experiences derived from recreation are related to the settings in which they occur

Resource - an extensive and relatively isolated and uninhabited area normally with difficult access designated as such to protect natural resources of the area for future use and prevent or contain development activities that could affect the resources

Resources – consist of the physical means of acting – financial, economic, and natural resources for security and on-going development, skilled people, information, and the appropriate technology.

Resource-oriented, non-structured recreation areas - parks where there is dependence on a particular resource or a combination of natural (land and water) resources.

Resource reserve - an extensive and relatively isolated and uninhabited area normally with difficult access designated as such to protect natural resources of the area for future use and prevent or contain development activities that could affect the resource pending the establishment of objectives which are based upon appropriate

Revenues – any fees or charges that are collected for entry into and use of certain facilities inside national parks and other protected areas

Species – a group of organisms capable of interbreeding freely of each other but not with members of other species

Stakeholders - the various institutions, social groups and individuals who possess a direct, significant and specific stake in a protected area

Strict nature reserve - an area possessing some outstanding ecosystem, features and/or species of flora and fauna of national scientific importance maintained to protect nature and maintain processes in an undisturbed state in order to have ecologically representative examples of the natural environment available for scientific study, environmental monitoring, education, and for the maintenance of genetic resources in a dynamic and evolutionary state

Visitor - any local or foreign individual or parties interested to visit a national park and other protected areas

Visitor Activity Management Process (VAMP) - a framework developed by the Canadian Park Service (CPS) and a group of academic researchers meant to act in consonance with natural resource management which feed information into two decision- making structures: system planning and park management planning, in which management plans are developed to implement national park policy in established national parks.

Visitor Impact Management (VIM) - planning framework that incorporates resource and visitor management within a process aimed at reducing or controlling the impacts that threaten the quality of outdoor recreation areas and opportunities

Wildlife - shall include all wild flora and fauna either live, preserved or processed state

Wildlife sanctuary - an area that assures the natural conditions necessary to protect nationally significant species, groups of species, biotic communities or physical features of the environment where these may require specific human manipulation for its perpetuation

List of Abbreviations

AD	-	Assistant Director
ANZECC	-	Australia and New Zealand Environment and Conservation Council
DENR	-	Department of Environment and Natural Resources
DOT	-	Department of Tourism
EIA	-	Environmental Impact Assessment
EIS	-	Environmental Impact Statement
EMS	-	Environmental Management Specialist
EMB	-	Environmental Management Bureau
ENRAP	-	Environmental and Natural Resource Accounting Project
GPMP	-	General Park Management Plan
IPAF	-	Integrated Protected Areas Fund
IPAS	-	Integrated Protected Areas System
IUCN	-	International Union for the Conservation of Nature and Natural Resources
LAC	-	Limits of Acceptable Change
MPD	-	Management Detail Plan
NCR	-	National Capital Region
NEDA	-	National Economic Development Authority
NGO	-	Non-Government Organization
NHI	-	National Historical Institute
NAPWNC	-	Ninoy Aquino Parks and Wildlife Nature Center
NIPAS	-	National Integrated Protected Areas System
NRDC	-	Natural Resourced Development Corporation
PASA	-	Protected Area Suitability Assessment
PAWB	-	Protected Areas and Wildlife Bureau
PCMC	-	Philippine Children's Medical Center

PSHS	-	Philippine Science High School
PVO	-	Private Voluntary Organizations
QC	-	Quezon City
QCPDAD	-	Quezon City Parks Development and Administration Department
QCPDFI	-	Quezon City Parks Development Foundation, Incorporated
QMC	-	Quezon Memorial Circle
QMNP	-	Quezon Memorial National Park
ROS	-	Recreation Opportunity Spectrum
SAS	-	Statistical Analysis Software
VAMP	-	Visitor Activity Management Process
VIM	-	Visitor Impact Management
WRI	-	World Resources Institute
WRRC	-	Wildlife Rescue and Rehabilitation Center
WWF	-	World Wildlife Fund

List of Appendices

- Appendix **1** : **Republic Act No. 7586**
An Act Providing for the Establishment and Management of the National Integrated Protected Areas System (NIPAS), Defining Its Scope and Coverage, and for Other Purposes
- Appendix **2** : Park Visitor Questionnaire – WRRC
- Appendix **3** : Park Visitor Questionnaire – QMC
- Appendix **4** : Park Management Questionnaire
- Appendix **5** : Vegetative Cover at WRRC
- Appendix **6** : List of Fauna Found at WRRC
- Appendix **7** : **Proclamation No. 312**
Disestablishing the Ninoy Aquino Parks and Wildlife Nature Center Situated in Quezon City, Metro Manila as Protected Area and shall be Known as DENR Wildlife Rehabilitation and Rescue Center
- Appendix **8** : Tri-Partite Memorandum of Agreement Between NHI, DOT and the Quezon City Government
- Appendix **9** : Summary of Park Management Interviews – Quezon Memorial Circle
- Appendix **10** : Summary of Park Management Interviews – Wildlife Rescue and Rehabilitation Center
- Appendix **11** : Protected Area Suitability Assessment (PASA)
- Appendix **12** : Letter of Introduction and Request for the Conduct of the Research Study

Figure 1:	Research Methodology.....	20
Figure 2:	Conceptual Framework.....	21
Figure 3.1:	Site map of DENR Wildlife Rescue and Rehabilitation Center.....	23
Figure 3.2:	The man made lake surrounded by trees planted on a relatively flat terrain.....	24
Figure 3.3:	Lungsod Kalikasan Zoo.....	26
Figure 3.4:	Animals that are quarantined at the Wildlife Rescue Center.....	26
Figure 3.5:	Comparison of the number of visitors and income generated At WRRC, 1988-1998.....	30
Figure 3.6:	Proposed organizational set-up for WRRC.....	32
Figure 3.7:	Makeshift fruit retail store run by a squatter family at WRRC.....	33
Figure 3.8:	Site map of Quezon Memorial Circle showing the main avenues that flow into the Elliptical Road that enclose the Park, and the government institutions that surround it.....	36
Figure 3.9:	The one hectare Quezon Memorial Shrine and Mausoleum.....	37
Figure 3.10:	The junction between Quezon Avenue and Elliptical Road.....	41
Figure 3.11:	The approach to QMC and WRRC from Quezon Avenue.....	41
Figure 3.12:	School kids on an extra-curricular activity at QMC.....	43
Figure 3.13:	The mix of park promenaders at Quezon Memorial Circle.....	43
Figure 3.14:	Relative location of QMC and WRRC in Quezon City, Philippines.....	45
Figure 3.15:	Aerial view of the two sites adjacent to each other.....	46
Figure 4.1:	The evolution of protected areas management.....	51
Figure 4.2:	The protected area management planning system model.....	59
Figure 4.3:	A model of protected area management planning process.....	60
Figure 4.4:	Citizen involvement in public decision-making.....	73
Figure 5.1:	The Limits of Acceptable Change planning system.....	95
Figure 5.2:	The Limits of Acceptable Change planning process.....	96
Figure 5.3:	The VIM planning framework.....	100
Figure 5.4:	The VAMP framework.....	107
Figure 5.5:	Key steps in interpretative planning for visitor management.....	110
Figure 5.6:	Social impacts of increasing recreational use.....	116
Figure 5.7:	Ecological impacts of recreational use.....	117
Figure 5.8:	The relationship between visitor management, visitor experience, and the condition of the resource.....	118
Figure 5.9:	A visitor management framework to adapt to changing visitor demands.....	119
Figure 6.1:	Possible phases/steps in a collaborative management process.....	124
Figure 6.2:	Participation in protected area management – a continuum in protected area management.....	140
Figure 8.1:	A suggested collaborative management framework for urban park management.....	165

Table 1:	Categories and Management Objectives of Protected Areas.....	8
Table 2:	Historical Chronology of the Wildlife Rehabilitation and Rescue Center (WRRC) and the Quezon Memorial Circle (QMC).....	14
Table 3.1:	Comparison of Number of Visitors at WRRC: 1988-1998.....	28
Table 3.2:	Comparison of Income Generated at WRRC: 1988-1998.....	29
Table 3.3:	Comparison of Income Generated at QMC: 1988-1991.....	38
Table 3.4:	Government Appropriations and Expenditures at QMC: 1988-1991.....	39
Table 3.5:	A Comparison of QMC and WRRC.....	47
Table 5.1:	Comparison of the Four Visitor Management Frameworks.....	113
Table 7.1:	Comparison of the Survey Results of Park Visitors.....	148
Table 7.2:	An Analysis of How QMC and WRRC Fulfills International and Local Management Objectives of Protected Areas.....	150
Table 7.3:	Potential Negative Environmental Impacts of Visitor/ Recreation Activities at WRRC and QMC.....	152
Table 8.1:	A Comparison of How Planning Tools are Utilized at QMC and WRRC.....	168

Chapter I. Introduction

1. Background

1.1 Definitions of National Parks and Protected Areas

In Western society, experiencing nature is an old and well-accepted recreational activity. Starting in the United States in 1872 with Yellowstone Park, governments set aside natural areas for protection and recreation in the form of national parks and protected areas. These initial attempts started a worldwide trend.

Within all parts of the globe, there is now a worldwide system of thousands of protected areas and national parks. Since 1970, the number of protected areas increased by 15%, from 8,641 (McNeely et al, 1994) to 9,932 (Eagles, 1999).

Borrini-Feyerabend (2000) states that most protected areas are under common property regimes, i.e., they are state-property or communal property, the latter being an effective control exercised by the members of a specific community. When the state or community control is ineffective or breaks down, the territory becomes open access - the condition that inspired the coining of the expression "tragedy of the commons" by Hardin (1968). Besides common property, protected areas can also be found under private ownership or mixed ownership status.

The International Union for the Conservation of Nature and Natural Resources (IUCN) has adopted the following definition of a protected area and a national park, respectively:

A **protected area** is an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.

A **national park** is a relatively large area where:

- *One of several ecosystems are not materially altered by human exploitation and occupation; where plant and animal species, geomorphological sites and habitats are of specific scientific interest, educational and recreational interest or which contains a natural landscape of great beauty;*
- *The highest competent authority of the country has taken steps to prevent or to eliminate as soon as possible exploitation or occupation in the whole area and to enforce effectively the respect of ecological, geomorphological or aesthetic features which have led to its establishment; and*
- *Visitors are allowed to enter, under special conditions, for inspirational, educational, cultural and recreational purposes.*

IUCN states that all protected areas need to meet the general purposes contained in this definition but in practice, the precise purposes for which protected areas are managed differ greatly. Apart from the protected area category, the management status of a protected area varies according to the political and socio-economic conditions of the host country. In some cases a protected area possesses its own management authority, with full autonomy, a large work force and extensive budget. In others, a protected area is protected only on paper - there is no demarcation, rule, or management practice to reflect a special status on the ground.

What many protected areas have in common, however, is that the responsibility for their management is fully assigned to a specific agency that is often a public body. At times the agency put in charge by the government is a non-governmental organization (NGO). In general, the agency has the mandate

of conserving the area for its own intrinsic value (such as habitat, species and genetic diversity) (Borrini-Feyerabend, 2000).

In a developing country like the Philippines, the main purpose for the establishment of protected areas has been to preserve important natural features and unique habitats.

Under Philippine Republic Act No. 7586 promulgated in 1992 (*An Act Providing for the Establishment and Management of National Integrated Protected Areas System* or IPAS), defining its scope and coverage, and for other purposes), a protected area and a national park are defined, respectively as follows:

*A **protected area** refers to identified portions of land and water set aside by reason of their unique physical and biological significance, managed to enhance biological diversity and protected against destructive human exploitation.*

*A **national park** refers to a forest reservation essentially of natural wilderness character which has been withdrawn from settlement, occupancy or any form of exploitation except in conformity with approved management plan and set aside as such exclusively to conserve the area or preserve the scenery, the natural and historic objects, wild animals and plants therein and to provide enjoyment of these features in such areas.*

1.2 Management Objectives of Protected Areas

Protected areas are of different categories and are often adjacent so that sometimes one category nests within another. Because of this, it is inevitable that the same designation may mean different things in different countries. In like manner, different designations in different countries may be used to describe the same category of protected area. As a consequence, there are significant

differences in how management is carried out within these areas. IUCN has developed a system of categories of protected areas according to management objectives that is shown in **Table 1**.

The following are the main management objectives for protected areas (Spellerberg, 1992; IUCN, 1994; McNeely et al, 1994):

1. Scientific research and education;
2. Wilderness protection;
3. Preserve species and genetic diversity;
4. Maintain environmental services;
5. Protect specific natural and cultural features;
6. Sustainable use of resources from natural ecosystems;
7. Maintain cultural and traditional attributes;
8. Produce protein from wildlife;
9. Produce timber, forage or extractive commodities;
10. Provide recreation and tourism services;
11. Maintain open options, management flexibility and multiple use;
12. Contribute to rural and integrated development;
13. Protect scenic beauty, and
14. Ensure options for the future.

In the Philippines, there are two types of protected areas: 1) strictly protected areas which are relatively free of exotic species, human settlements and cultivation, and 2) extractive protected areas that are areas where limited and regulated harvesting of resources are allowed (EMB, 1996). Protected areas are also categorized based on their management objectives into (PAWB, 1998) (a) strict nature reserve, (b) national park, (c) natural monument/landmark, (d) managed nature reserve/wildlife sanctuary, (e) protected landscape/seascape, (f) resource reserve, (g) natural biotic areas, and (h) other categories.

One example of a protected area in the Philippines is the Quezon Memorial National Park which is classified under the first type (strictly protected area) and whose management objectives are categorized as falling under (b). Two existing urban parks that were originally part of this national park will be the objects of study and the subjects of discussion as a major part of this research.

The establishment of protected areas in the Philippines serves five (5) significant purposes (EMB, 1996), namely:

1. Protection of the ecosystem and habitats from indiscriminate encroachment, exploitation and destruction by human beings;
2. Conservation of the habitat for the breeding of endangered/threatened wildlife and maintenance of biodiversity;
3. Achievement of compromise between preservation efforts, recreational needs and requirements of the local people;
4. Facilitation of controlled experiments and research on ecosystems, habitats and wildlife, and
5. Promotion of people's awareness of the role of ecological patterns and their inherent fragility.

In **Table 1** are shown the categories of protected areas and their management objectives as categorized by IUCN and several other authors, and the NIPAS Act of the Philippines. The author attempts to analyze how each category fulfills management objectives for protected areas in the present day context.

It can be seen from the analysis that although management objectives are explicitly stated for each category of protected area, this does not ensure that these objectives are strictly adhered to and met. Of course, management schemes utilized to meet the objectives are dependent on the site as well. IUCN

designated protected areas have consistent objectives for each category. However, there is more uncertainty about protected areas management within the Philippines.

1.3 Management Issues in Protected Areas

There are key environmental and management issues relevant to protected areas and national parks apparent world-wide such as: management of environmental quality, biodiversity conservation, limits of acceptable change, management of visitor use, allocation of access, management of recreational conflict, law enforcement and monitoring, facility design, park financial viability and community development.

These key management issues in national parks and protected areas can be summarized as (IUCN, 1997):

- 1.** Balancing the needs of conservation, recreation and sensitive economic development;
- 2.** Preserving cultural and historical value of intensively used areas;
- 3.** Dealing with an increasingly complex set of demands which is possibly best characterized by a diversifying set of recreational needs;
- 4.** Providing for such increase in recreational demands as dictated by demographic and temporal needs;
- 5.** Ensuring visitor satisfaction by providing services and facilities;
- 6.** Addressing historical and present day issues relating to ownership and management; and
- 7.** Improving productivity and conservation outcomes.

In the Philippine scenario, several obstacles must be overcome in the expansion of protected areas and the enhancement of their role in biodiversity conservation (EMB, 1996). These obstacles include:

1. Conflicts with local people in relation to the establishment or existence of a protected area;
2. Weak or unstable administration of policies and budgets by the agency responsible in managing the protected area;
3. Ineffective and poor management of the protected area;
4. Inadequate funding for the protected area, and
5. Weak public support for the protected area.

The Integrated Protected Areas System (IPAS – refer to **Appendix 1**) has been adopted to address the fragmented and sometimes unrealistic approaches to the management of protected areas in this country. IPAS recognizes that effective administration of these protected areas is possible only through cooperation among the national government, the local government and concerned private organizations. IPAS stresses that the use and enjoyment of these protected areas must be consistent with the principles of biological diversity and sustainable development.

Also, the National Integrated Protected Areas System (NIPAS) program which started in 1988 proposes to re-establish and strengthen the protected areas management in terms of: a) site establishment and management, b) institutional development through improved supervisory mechanisms, c) human resources development and training, d) policy reform, and e) financial support mechanisms (EMB, 1996).

Table 1 : Categories and Management Objectives of Protected Areas

A. IUCN designation of Protected Areas

Category	Name	Management Objectives													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
I.	Scientific Reserve/ Strict Nature Reserve	★	△	★	★	△	△						△		△
II.	National Park	★	★	★	△	★	△				★	△	★		★
III.	Natural Monument/ Natural Landmark	★	★	★	★	△	△				★	△	△		△
IV.	Managed Nature Reserve/ Wildlife Sanctuary	★	△	★	★	△	△		△		△	△	△		△
V.	Protected Landscapes	△	△	△	△	△	△	★	△	△	★	★	★	△	★
VI.	Resource Reserve	△	△	△	△	△	△	△	△	△			★		△
VII.	Natural Biotic Area/ Anthropological Reserve	★	★	★	△	△	△	★	△	△	△	★			△
VIII.	Multiple Use Management Area/ Managed Resource Area		△	△	△	△	△	△	★	★	★	△	△	★	★
IX.	Biosphere Reserve	★	△					★				★	★		
X.	World Heritage Sites	★	★									★	△		

References : IUCN (1994); Spellerberg (1992); Wright (1996)

Legend : Management Objectives

- | | | | | | |
|---|--|----|--|---|------------|
| 1 | Maintain sample ecosystems in natural state | 8 | Produce protein from wildlife | ★ | Priority |
| 2 | Maintain ecological diversity and environment regulation | 9 | Produce timber, forage or extractive commodities | △ | Considered |
| 3 | Conserve genetic resources | 10 | Provide recreation and tourism services | | |
| 4 | Provide education, research and environmental monitoring | 11 | Project sites and objects of cultural, historical or archaeological heritage | | |
| 5 | Conserve watershed, flood control | 12 | Protect scenic beauty | | |
| 6 | Control erosion and sedimentation | 13 | Maintain open options, management and flexibility, multiple use | | |
| 7 | Maintain indigenous uses or habitation | 14 | Contribute to rural development | | |

Table 1 : Categories and Management Objectives of Protected Areas

B. The National Integrated Protected Areas System (NIPAS) of the Philippines (Republic Act No. 7586)

Category	Name	Management Objectives													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
A.	Strict Nature Reserve	★	★	★	★										
B.	Natural Park	★	★		★					★		★			
C.	Natural Monument	★	★												
D.	Wildlife Sanctuary	★	★	★	△								★		
E.	Protected Landscapes and Seascapes	△	△						△	★			★	△	
F.	Resource Reserve	★	★												
G.	Natural Biotic Areas		★		△								★	△	
H.	Other Categories (established by law, conventions or international agreements which the Philippine Government is signatory)														

Reference : PAWB, 1998a

Legend : Management Objectives

- | | | | | | |
|---|--|----|--|---|------------|
| 1 | Maintain sample ecosystems in natural state | 8 | Produce protein from wildlife | ★ | Priority |
| 2 | Maintain ecological diversity and environment regulation | 9 | Produce timber, forage or extractive commodities | △ | Considered |
| 3 | Conserve genetic resources | 10 | Provide recreation and tourism services | | |
| 4 | Provide education, research and environmental monitoring | 11 | Project sites and objects of cultural, historical or archaeological heritage | | |
| 5 | Conserve watershed, flood control | 12 | Protect scenic beauty | | |
| 6 | Control erosion and sedimentation | 13 | Maintain open options, management and flexibility, multiple use | | |
| 7 | Maintain indigenous uses or habitation | 14 | Contribute to rural development | | |

Chapter 2. The Research Study

2.1 Rationale

2.1.1 Legal Mandates for Protected Areas

Concern with protecting the environment for the benefit of present and future generations is now at the center of the international agenda. Each government has the mandate and a fundamental responsibility for the protection, conservation and well-being of the national systems of protected areas. Such areas should be regarded as important components of national strategies for conservation and sustainable development.

However, the prime responsibility for the management of individual protected areas rests on the local government in cooperation with the regional or central government, non-government organizations, local communities and the private sector. The test is whether the designated authority has the capability of achieving the management objective for a particular protected area.

The legal basis for protected areas in the Philippines is complex and since 1900, there have been at least 262 enactments. These have been in a variety of forms (Republic acts, proclamations, administrative orders, executive orders, Presidential letters of instruction, and others) mostly relating to the establishment or modification of protected areas. In a number of cases, enactments have been overlapping or inconsistent, or have not provided sufficient information for a protected area to be accurately delimited. There has been a marked tendency to issue amending enactments that has led to further confusion. Thus, for example, the legal and administrative status of the Quezon Memorial National Park can only be ascertained by reference to at least 12 enactments (Protected Areas Information Service, 1999).

2.1.2 Administration and Management of Protected Areas

In the Philippines, the function of managing and preserving protected areas is vested to the Department of Environment and Natural Resources (DENR) although there are as many as ten (10) different bodies that have administrative responsibility for national parks (Lewis, 1996). The 1990 Philippine Strategy for Sustainable Development (DENR, 1991) has been endorsed by the Cabinet and includes a clear commitment on behalf of the government to establish protected areas as the principal instrument for conservation (WWF, 1991) but lacks a clear mechanism for funding and implementation (Roque, 1991)

The Protected Areas and Wildlife Bureau (PAWB) is one of the staff bureaus of the DENR with a primary responsibility for the establishment and management of protected areas and the conservation of wildlife resources. Its functions related to protected areas management are to: (1) formulate and recommend policies, guidelines, rules and regulations for the establishment and management of an IPAS, such as national parks, wildlife sanctuaries and refuges, marine parks and biosphere reserves; (2) formulate and recommend policies, guidelines, rules and regulations for the preservation of biological diversity, genetic resources, the endangered Philippine flora and fauna; and (3) assist the Secretary (of DENR) in the monitoring and assessment of the management of the IPAS and provide technical assistance to the regional offices in the implementation of these programmes. PAWB cooperates with the regional offices of the DENR, providing technical assistance, briefing on wildlife policy, resource inventories, education programmes and field operations.

Although there are designated government agencies and other organizations in charge of protected areas administration and management, it has historically been weak in the Philippines, due to the many institutional reorganizations as well as institutional and juridical struggles. This was

particularly true during the period when the Parks and Wildlife Office was subsumed into the Bureau of Forest Development. Further, staffing, funding, training and administrative support have been inadequate (Fernandez, 1988). Park boundaries are frequently not demarcated (Basa, 1988), law enforcement is lacking and current staffing and financial provisions are such that the PAWB is unable to deploy an effective corps of forest guards and park rangers (WCMC, 1988).

2.2 The Research Problem

The Wildlife Rescue and Rehabilitation Center (WRRC) and the Quezon Memorial Circle (QMC) are two adjacent urban parks located in Quezon City, Philippines that originally formed part of the former Quezon Memorial National Park.

The Quezon Memorial National Park (QMNP) was established by Philippine Commonwealth President Manuel L. Quezon under Proclamation No. 42 in 1954. The original national park covered 197.8 hectares and was managed and supervised by the Quezon City government until this function was transferred to the Parks and Wildlife Office, Department of Agriculture and Natural Resources (DANR). Today, two separate urban leisure parks adjacent to each other represent QMNP: QMC and WRRC.

The WRRC, which used to be known as the Ninoy Aquino Parks and Wildlife Nature Center (NAPWNC) is a 24-hectare park now being managed and supervised by the PAWB/DENR. It was inaugurated and opened to the public in 1970. The park has been disestablished in May, 2000 under Proclamation No. 312 by President Joseph E. Estrada and converted to a wildlife rescue and rehabilitation center.

The QMC is a 26-hectare park under the jurisdiction of the Quezon City government. As a provision of a tri-partite memorandum of agreement entered into by the Department of Tourism (DOT), the National Parks Development Committee, the National Historical Commission and the Quezon City government, a master plan for the park was drawn up to develop and beautify the area. This master plan is supposed to be implemented by the Quezon City Parks Development Foundation, Inc. (QCPDFI) which is contracted to manage and supervise the park.

The major causes of significant changes in the transformation of both parks arouse mainly from the management schemes set by the designated authorities for each site.

Table 2 shows the transformation of each site as dictated by Philippine legislation. From the concept of a national historical shrine in 1952, QMC has now been converted to a recreational/leisure complex. Management authority has also changed hands, from the local government to a private foundation. On the other hand, WRRC's area has been greatly reduced through various enactments from 1954 through 1970 unto its size today of 24 hectares. This was done to pave the way for the erection of several government institutional buildings around the park. It is good to note that WRRC has retained its concept of a wildlife center and zoological garden.

2.3 Research Objectives

This research aims to evaluate the management scheme of these two urban parks that were initially part of a national protected area against the criteria set by international and local guidelines. Further, the research will examine how this evaluation can be used as a planning tool in making present and future management decisions to meet and achieve environmental ends.

Table 2 : Historical Chronology of the Wildlife Rehabilitation and Rescue Center (WRRC) and the the Quezon Memorial Circle (QMC)

Date	Law	Legislative Focus	
		WRRC	QMC
December 17, 1945	Executive Order No. 79		Creating the Quezon Memorial Committee by President Sergio Osmena
1952			Construction of the Quezon Memorial Shrine
July, 1954	Proclamation No.42	Establishment of the 197 hectares Quezon Memorial Park under the administration of the Commission on Parks and Wildlife	
December, 1954	Proclamation No. 373	Amending Proclamation No. 42 (PN) by reducing the land reserved for the Quezon Memorial Park and reverting to people's homesite	
February, 1960	Proclamation No. 650	Revoking PN 373 and restoring the original area of Quezon Memorial Park	
December, 1961	Proclamation No. 811	Revoking PN 42 and transferring of jurisdiction of the Quezon Memorial Park from the Commission on Parks and Wildlife to the Quezon City government	
October, 1962	Proclamation No. 54	Amending PN 811 and transferring administration of Quezon Memorial Park to the Parks and Wildlife Office	
January 14, 1963	Executive Order No. 30		
October, 1968	Proclamation No. 481	Excluding from Quezon Memorial Park certain parcel of land for the national government center site	
		Excluding from Quezon Memorial Park certain parcel of land for the Philippine Children's Medical Center	
October, 1969	Proclamation No. 616	Excluding from Quezon Memorial Park certain parcel of land for the Philippine Science High School	
July, 1970		Former President Ferdinand E. Marcos inaugurated the Parks and Wildlife Nature Center, a 24-hectare portion of the Quezon Memorial Park	

Table 2 : Historical Chronology of the Wildlife Rehabilitation and Rescue Center (WRRC) and the the Quezon Memorial Circle (QMC) ~ page 2

September 24, 1972	Presidential Decree No. 1		Abolishing the Quezon Memorial Committee and creating the National Historical Institute
May 10, 1973	Presidential Decree No. 186		Transferring the jurisdiction of the Quezon Memorial Shrine from the Committee to the National Historical Institute
January 14, 1974			Declaring the Quezon Memorial Shrine as a National Shrine
1974	Presidential Decree No. 461	Placing the jurisdiction of the Park to the Department of Environment and Natural Resources	
March, 1975	Proclamation No. 1402	Excluding from Quezon Memorial Park certain parcel of land for the gold refinery, gold printing and mint plant of the Central Bank of the Philippines	
April 13, 1977	Memorandum of Agreement		Implementing the respective responsibilities of the Quezon City government and the National Historical Institute for the purpose of developing and maintaining the Quezon Memorial Complex
	Presidential Decree No. 1631	Excluding from Quezon Memorial Park certain parcel of land for the Lung Center and Kidney Center	
September, 1977	Proclamation No. 1670	Excluding from Quezon Memorial Park certain parcel of land for the Manila Seedling Bank Foundation	
August 18, 1978	Presidential Decree No. 260		Declaring the Quezon Memorial Circle as a National Historical Landmark and opening of the Quezon Museum
February, 1986	MNR Administrative Order No. 4	Parks and Wildlife Center was established as the Ninoy Aquino Parks and Wildlife Nature Center and clasified as a zoological garden	
1987	Executive Order No. 192	Subsuming the Park under the Department of Environment and Natural Resources	
February 28, 1989	Tripartite Memorandum of Agreement		Putting the responsibility for the development and maintenance of the Quezon Memorial Circle as a national monument and a public park to the National Historical Institute (NHI), the Quezon City government and the National Parks Development Committee of the Department of Tourism

Table 2 : Historical Chronology of the Wildlife Rehabilitation and Rescue Center (WRRC) and the the Quezon Memorial Circle (QMC) ~ page 3

Date	Law	Legislative Focus	
		WRRC	QMC
March 6, 1989	Presidential Decree No. 144 Executive Order No. 319		Preparation of development plans
September 27, 1988	Supplemental Memorandum of Agreement		Designating the Quezon City Parks Development Foundation, Inc. (QCPDFI) to manage and administer the Quezon Memorial Circle and appropriating P22.5 M for these purposes
September, 1990	Resolution No. 90-01 City Development Council Quezon City		Adopting the Quezon City Annual Development Plan and Work Programs for the completion of the improvement and upgrading of the Quezon Memorial Circle in the total amount of P25,000,000
October, 1991	Quezon City Ordinance No. S-91		Creating a trust fund out of the proceeds/collections from the use of the Quezon Memorial Circle in the form of rentals, fees and other charges which shall be reserved and disbursed solely for the operation, development and maintenance of QMC (authored by Councilor Eduardo T. David)
December 3, 1992	Resolution No. 45, SP 52		Ratifying the MOA between the Quezon City government and the QCPDFI
December 14, 1992 January 21, 1993	Resolution No. 52, SP 92 Resolution No. SP -54		Providing assistance consisting of financial grant to the QCPDFI by the City Council
March, 2000	Proposed Resolution		Repealing SP-52 that ratified the MOA between the Quezon City Government and the QCPDFI to improve, manage, maintain and operate the Quezon Memorial Circle (authored by Councilor Anthony Castelo)
May, 2000	Proclamation No. 312	Disestablishing the Ninoy Aquino Parks and Wildlife Center situated in Quezon City, Metro Manila as protected area and shall be known as DENR Wildlife Rescue and Rehabilitation Center	

The focus of the research will be the socio-economic and spatial impacts of these urban parks and the implications of these impacts to management and environmental conservation. Specifically, the research has the following objectives:

- Evaluate and compare the management schemes of two adjacent urban parks against local and international criteria and guidelines, existing values and visions for the future;
- Identify and evaluate the impacts of these adjacent sites to the surrounding urban environment and vice versa;
- Review the effectiveness of the management schemes on these two parks;
- Evaluate the implementation of the management schemes based on (a) park management, (b) visitor management, and (c) biodiversity conservation;
- Identify new alternative management structures for park management if appropriate; and
- Make recommendations on how to effect changes in the management of these urban parks to achieve environmental conservation goals.

2.4 Research Methodology

Figure 1 illustrates the research methodology used in this study.

2.4.1 Literature Review

To achieve the objectives of this research, a review of current literature on the management and conservation of protected areas and urban parks was conducted to form the bases of the conceptual framework. Included within this

review were the criteria and guidelines set by international and local authorities on protected areas management and conservation. The management schemes used by these specific sites were examined and evaluated against these criteria and guidelines.

A local literature review was also included to give a picture of the current management schemes of both sites and the legislative mandates that affected these management schemes.

2.4.2 Survey of Park Visitors and Interviews with Management Staff

In addition, a survey of park visitors within WRRC and QMC was conducted and interviews with management staff were held. This was done to aid the author in evaluating the effectiveness of the management schemes and determining the socio-economic and spatial impacts of both parks. The survey instruments are shown in ***Appendix 2, 3 and 4.***

The analysis of park visitor interviews focused on the relationship between socio-economic factors and visitor perception of parks and conservation. The interview schedule for management staff, on the other hand, analyzed how these staff perceived how the parks were managed and how it can be improved.

2.4.3 Use of Maps, Videos, Photographs and Historical/Legal Documents

Maps and photographs of the areas were obtained and videotapes were used to document the sites. These materials were used to form the spatial

analysis for both sites. Historical literature and legal documents were also gathered and compiled to analyze how they have effected and affected the transformation of the sites through the management mandates set by law.

2.5 Conceptual Framework

Figure 2 shows the conceptual framework of this research study and how it was used to achieve the research objectives.

Figure 1. Research Methodology

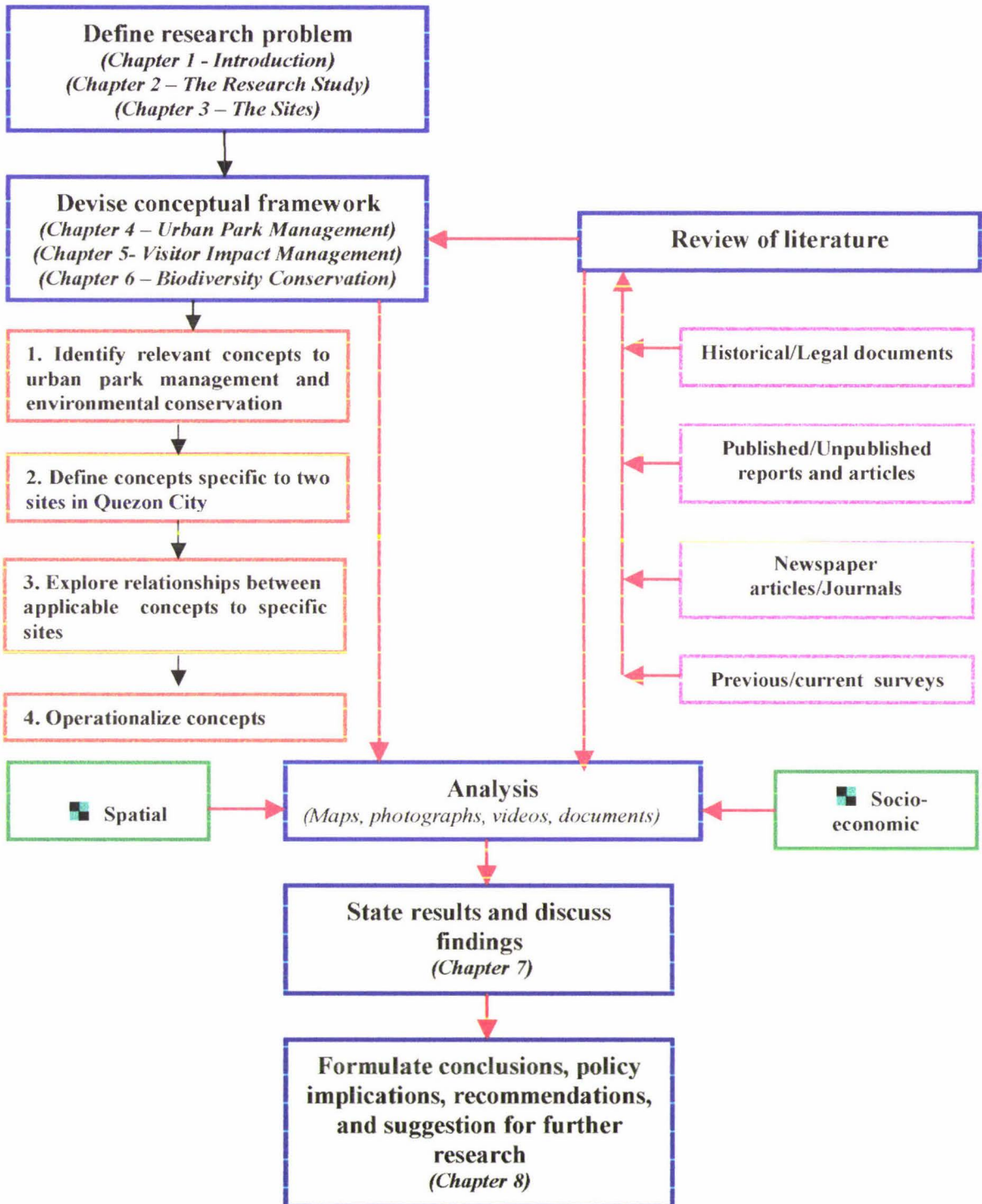
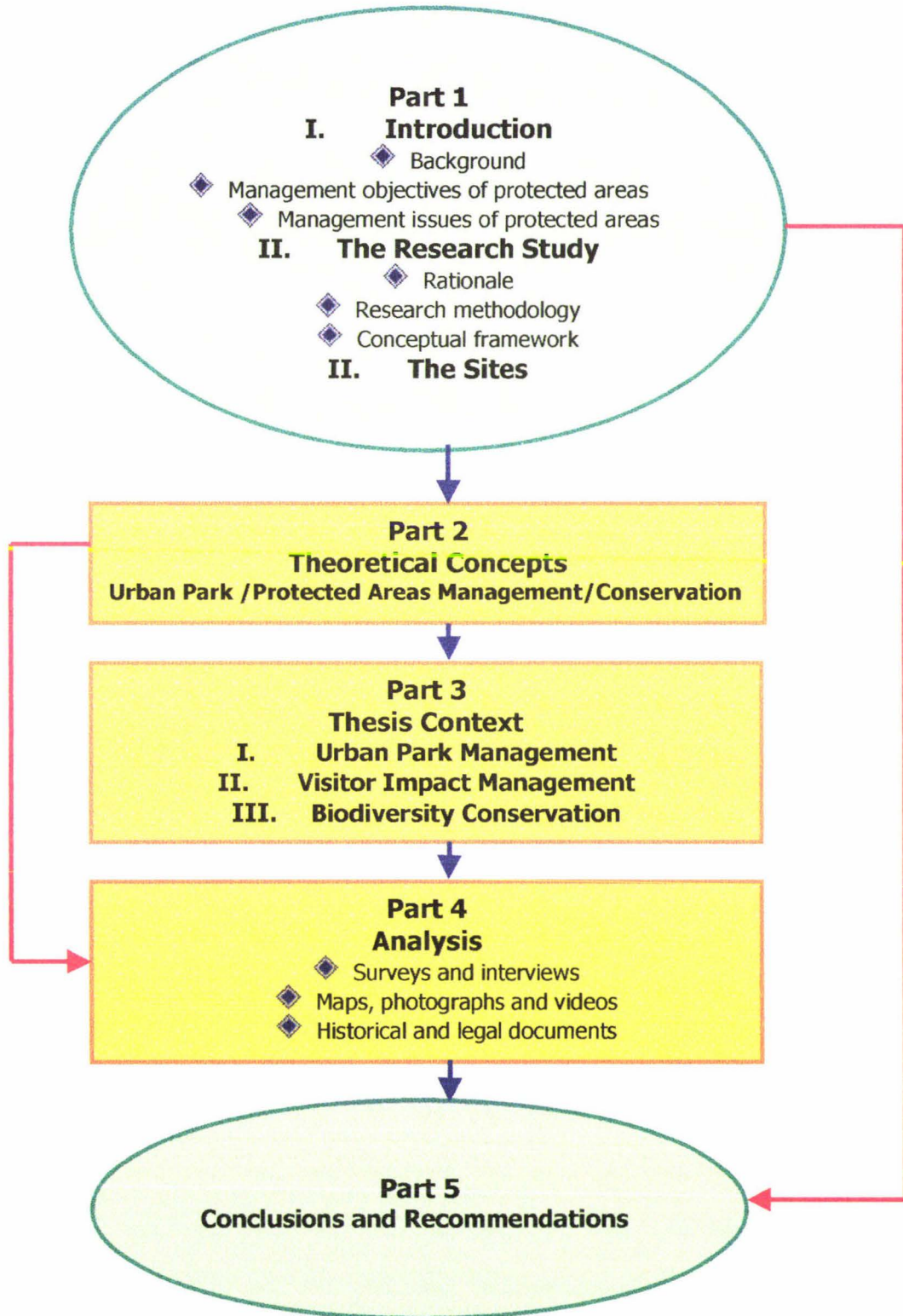


Figure 2. The Conceptual Framework



Chapter 3. The Sites

3.1 The DENR Wildlife Rescue and Rehabilitation Center

3.1.1 Geographic Location

The DENR Wildlife Rehabilitation and Rescue Center (WRRC), formerly known as the Ninoy Aquino Parks and Wildlife Nature Center (NAPWNC) is located in Quezon City, one of the cities comprising the Greater Manila Area in the Philippines. It is bounded by two main roads on the north (North Avenue) and east sides (Elliptical Road), by the Quezon Memorial Circle on the east, the Philippine Children Medical Center (PCMC) and the Philippine Science High School (PSHS) on the west and another main road (Quezon Avenue) on the south, as shown in **Figure 3.1**. Because main roads surround it, the Park is accessible by all means of transportation. Pedestrian access is available through two main gates located at Quezon Avenue and North Avenue.

The fact that the site is totally surrounded by government institutions and major thoroughfares supports its vital role in providing a transition between different land uses within the city. The site is located very near a high school, four (4) medical centers, and several government offices. Additional pedestrian/vehicular traffic is generated within the main thoroughfares around this site due to the influx of park visitors especially during peak seasons.

3.1.2 Topography and Physiography

The WRRC is a 24-hectare open space harboring a natural ecosystem replete with its own flora and fauna (PAWB, 1998b). It is an approximation of a natural forest setting with about 79 species of trees and shrubs and sheltering

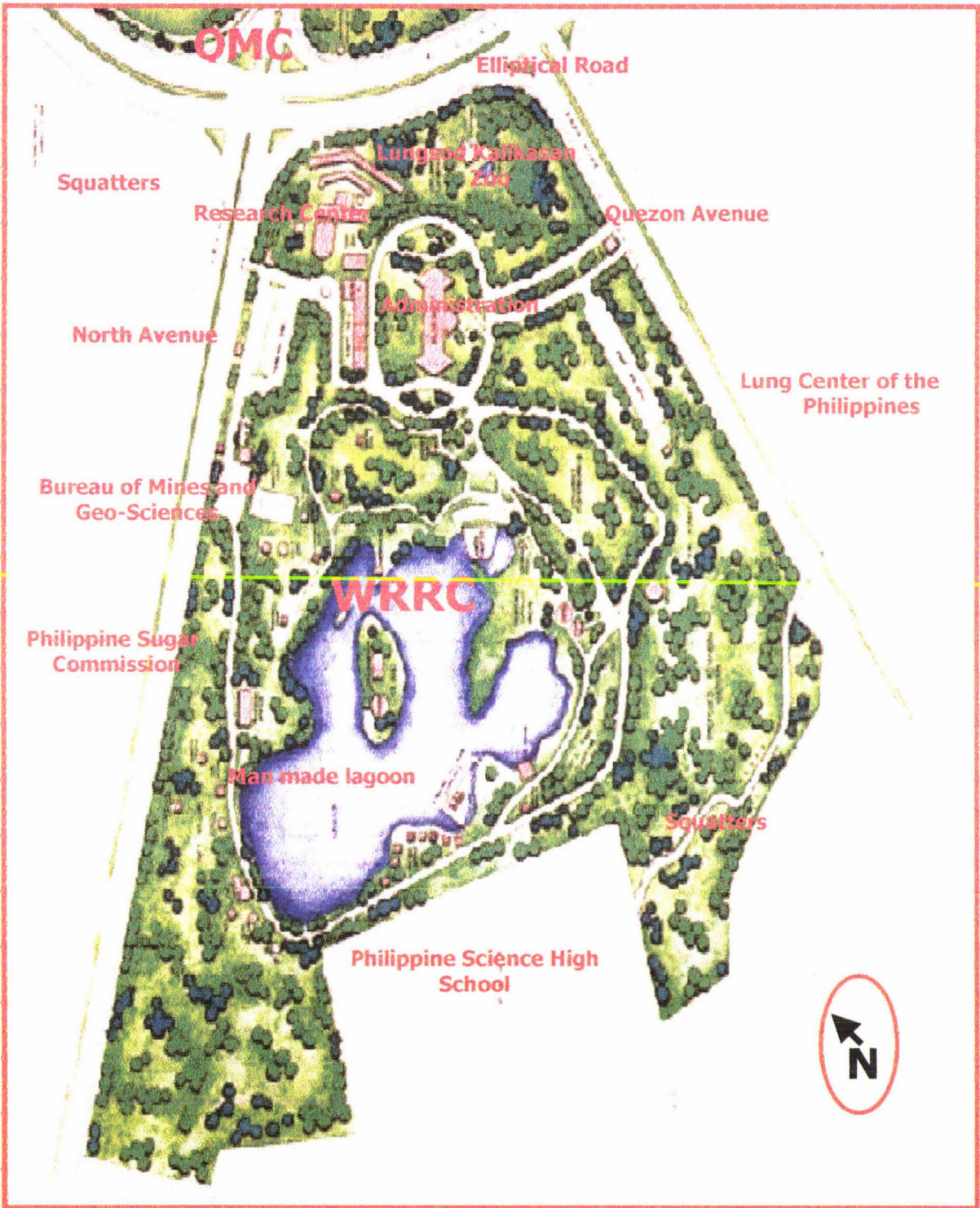


Figure 3.1 Site map of the DENR Wildlife Rehabilitation and Rescue Center

about 67 species of birds and other animals. (Refer to **Appendix 5** and **Appendix 6**).

The Center's area was reduced with the establishment of government centers under proclamations issued between 1954 and 1979. From its original size, the largest portion was allocated for the National Government Center (Proclamation No. 481). This was further subdivided and developed as areas for occupation by the Philippine Children's Medical Center, Philippine Science High School (PN 616), the Central Bank of the Philippines (PN 1402) and the Lung Center and Kidney Center (PD 1631)(refer to **Table 2**).

The terrain of the Park is relatively flat and is drained by an irregularly-shaped man-made lake (**Figure 3.2**) at its southern portion and a creek at the southwest side adjacent to PSHS. The two-hectare man-made lake located at the center of the Park is seeded with local fish for recreational fishing. Due to its flat terrain, the Park is easily flooded during heavy rains and portions of the area are easily eroded despite the presence of trees.



Figure 3.2 The man made lake surrounded by trees planted on a relatively flat terrain.

The Lungsod Kalikasan Zoo (**Figure 3.3**) is the most outstanding feature within the Park. This zoo serves as a refuge for confiscated/donated animals (**Figure 3.4**), a rehabilitation clinic/quarantine for animals displayed within the Park and as a laboratory for staff veterinarians and students. The zoo houses about 800 animals of different species and occupies seven (7) hectares of the Park's total land area.

Different government establishments surround the Park. There are however approximately 1,279 illegal occupants encroaching within the Park's property line to date whose number was initially 4,000 in 1954 (see **Figure 3.1** for location of squatters' areas).

3.1.3 Administration

In the old organizational set-up, WRRC falls under the umbrella of the PAWB*, a DENR line bureau in charge of wildlife/biodiversity conservation. With the recent issuance of Proclamation No. 312 (**Appendix 7**), park management and supervision still remains with PAWB (which takes charge of the biodiversity conservation side) but is now co-managed by the Natural Resources Development Corporation (NRDC), the corporate arm of DENR (which oversee the marketing and tourism side). Co-management between these government agencies and private entities is the new management scheme adapted with a new focus on transforming the Center into an ecological destination. Therefore, the Park will be promoted through tourism.

A Park Superintendent manages the day-to-day administration of the Center under the supervision of Park Director Jesus A. Domingo. At present there

* PAWB is one of the staff bureaus under DENR with the primary responsibility of establishing and managing protected areas and conserving wildlife resources.

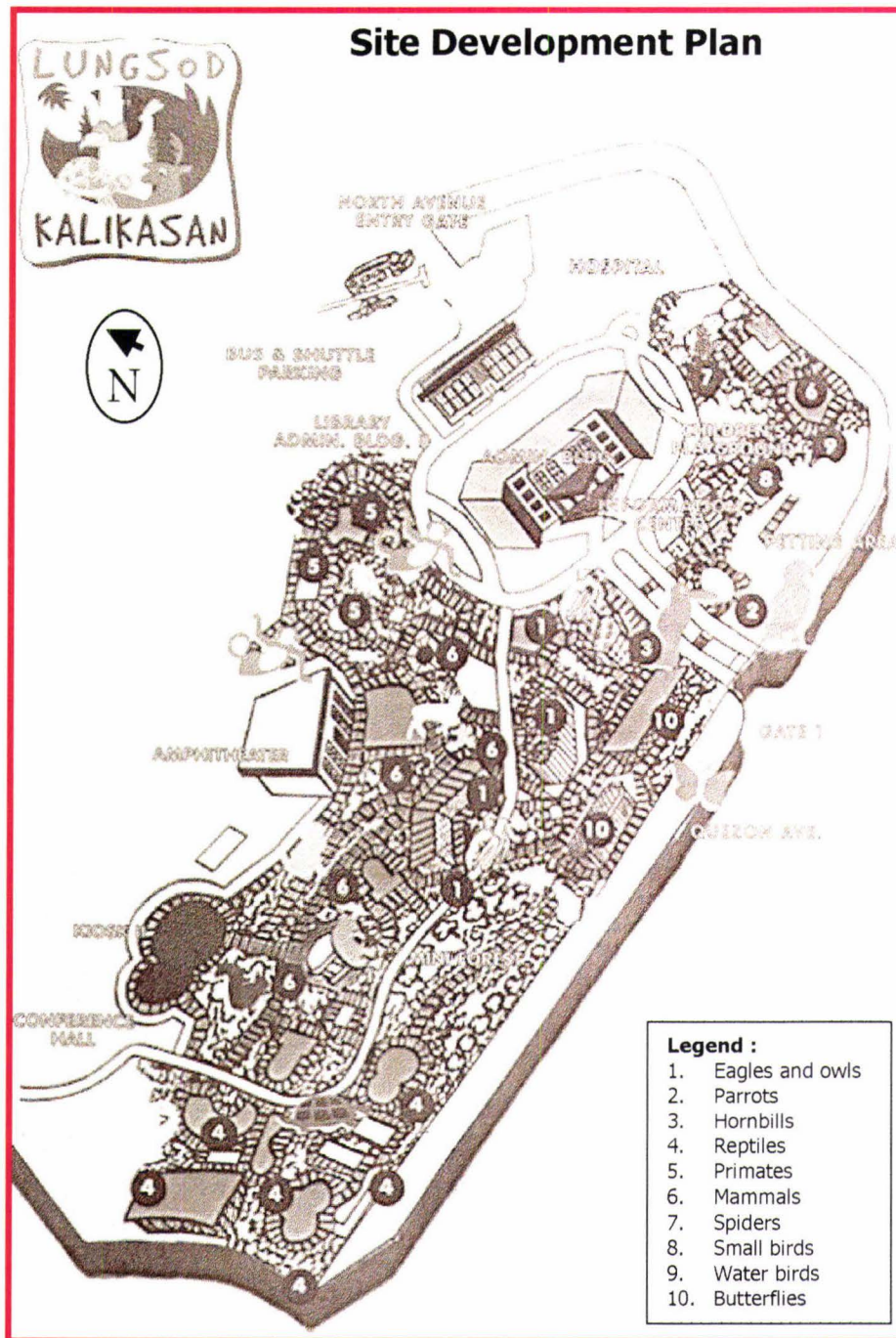


Figure 3. 4. Animals in cages that are quarantined at the Wildlife Rescue Center

Figure 3.3. Site Development Plan of the Lungsod Kalikasan Zoo

are 11 regular staff and 72 casual employees (PAWB, 1998a). The Park operates on a budget appropriated by the national government.

Throughout the year, the Center becomes the scene of all kinds of educational, scientific and recreational activities. **Table 3.1** shows the comparison of the number of visitors in the Park from 1988 to 1998 while **Table 3.2** reflects the corresponding income generated for each year. **Figure 3.5** presents the trend for the number of visitors and the revenue generated throughout the ten-year period.

3.1.4 Plans and Programmes

PAWB/DENR aims to develop and maintain the Center as the transition between the urban ecosystem and the natural forest ecosystem in order to promote consciousness on the value and importance of biodiversity conservation and natural heritage. To achieve this end, current plans include (PAWB, 1998a):

- 1.** Completion of the Lungsod Kalikasan Zoo to showcase wildlife conservation and preservation in action including research on animal disease control and management;
- 2.** Horizontal development – to include improvement of the drainage, water and electrical systems, landscaping, rip-rapping (to prevent flooding and erosion) and tree planting, construction of additional tourist facilities such as centers for information, training and research;
- 3.** Nature Conservation Education Program targeting primary and secondary schools especially those that sponsor educational field trips, and

Table 3.1 : Comparison of Number of Visitors at WRRC : 1988 ~ 1998

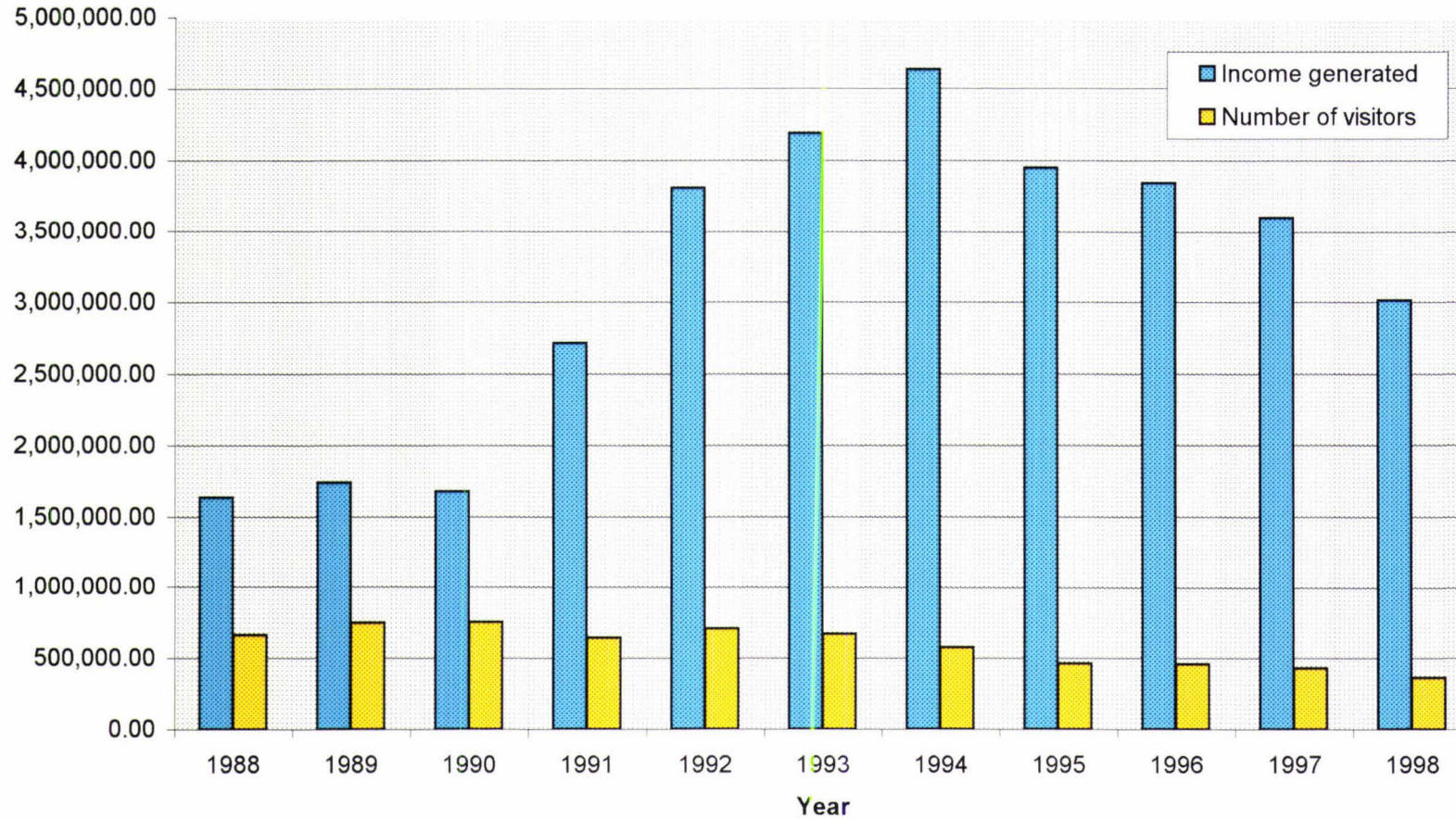
Month/Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	72,150	85,907	87,220	68,797	74,558	76,219	64,770	60,303	53,594	51,386	49,385
February	54,535	75,859	90,062	59,836	71,640	77,713	60,014	50,950	50,207	38,806	34,450
March	66,378	74,302	86,839	68,790	73,127	66,801	52,375	47,878	46,556	42,930	38,349
April	56,423	69,760	76,594	66,852	60,269	62,192	54,213	49,212	34,471	41,921	30,717
May	57,301	61,799	67,901	65,772	61,511	67,684	46,734	43,926	39,966	33,738	28,067
June	26,330	36,597	37,820	33,162	39,886	33,829	27,706	25,088	28,137	21,921	17,821
July	39,478	42,103	39,843	22,365	34,192	36,840	19,562	26,284	24,404	19,960	25,025
August	53,764	35,049	34,980	21,140	31,622	44,489	41,794	30,672	30,703	26,730	30,006
September	60,719	57,946	47,880	43,181	46,524	43,221	47,479	25,716	31,339	31,433	20,905
October	50,044	85,687	53,866	63,579	71,350	53,395	48,386	33,334	36,639	35,900	20,719
November	51,444	62,307	57,908	53,560	60,231	47,247	55,557	29,239	30,465	35,663	30,739
December	72,759	55,158	65,300	74,409	77,172	56,480	56,467	37,940	50,308	47,305	33,677
Total	661,325	742,474	746,213	641,443	702,082	666,110	575,057	460,542	456,789	427,693	359,860

The Sites

Table 3.2 : Comparison of Income Generated at WRRC : 1988-1998

Month / Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
January	162,526.00	204,352.00	193,934.00	144,689.00	383,790.00	412,895.00	506,414.00	476,052.00	444,824.00	426,418.00	400,049.00
February	161,525.00	194,825.00	202,962.00	134,010.00	362,047.00	401,716.00	510,838.00	420,505.00	405,821.00	328,034.00	291,504.00
March	172,296.00	171,406.00	197,622.00	151,636.00	388,001.00	354,404.00	430,442.00	408,708.00	369,406.00	335,707.00	308,195.00
April	127,114.00	159,766.00	169,946.00	314,448.00	319,849.00	350,357.00	442,833.00	399,426.00	287,499.00	356,746.00	272,109.00
May	127,864.00	148,398.00	151,428.00	333,444.00	321,206.00	357,384.00	381,402.00	376,088.00	344,195.00	291,314.00	228,955.00
June	61,332.00	79,550.00	87,166.00	169,776.00	239,592.00	209,036.00	233,807.00	226,257.00	226,948.00	185,946.00	155,360.00
July	98,717.00	98,341.00	93,416.00	118,063.00	171,723.00	202,530.00	159,586.00	227,439.00	220,603.00	173,162.00	213,262.00
August	127,665.00	102,239.00	81,848.00	132,212.00	187,372.00	281,879.00	336,714.00	258,748.00	239,161.00	223,703.00	254,159.00
September	161,424.00	135,242.00	108,125.00	201,251.00	267,235.00	332,670.50	365,085.00	230,352.00	252,605.00	259,945.00	163,325.00
October	132,626.00	184,676.00	122,310.00	340,185.00	415,564.00	453,118.00	387,020.75	301,743.00	337,051.00	317,692.00	179,356.00
November	133,083.00	140,570.00	123,716.00	302,490.00	305,263.00	390,505.00	436,467.00	289,771.00	295,355.00	313,330.00	270,867.00
December	169,760.00	123,262.00	146,138.00	370,617.00	446,888.00	442,392.00	445,362.00	333,605.00	418,093.00	386,278.00	274,454.00
Total	1,635,932.00	1,742,627.00	1,678,611.00	2,712,821.00	3,808,530.00	4,188,886.50	4,635,970.75	3,948,694.00	3,841,561.00	3,598,275.00	3,011,595.00

Figure 3.5 Comparison of Number of Visitors and Income Generated at WRRC, 1988-1998



4. Reorganization of the park management team as shown by the proposed organizational chart prepared by Director Domingo **(Figure 3.6)**.

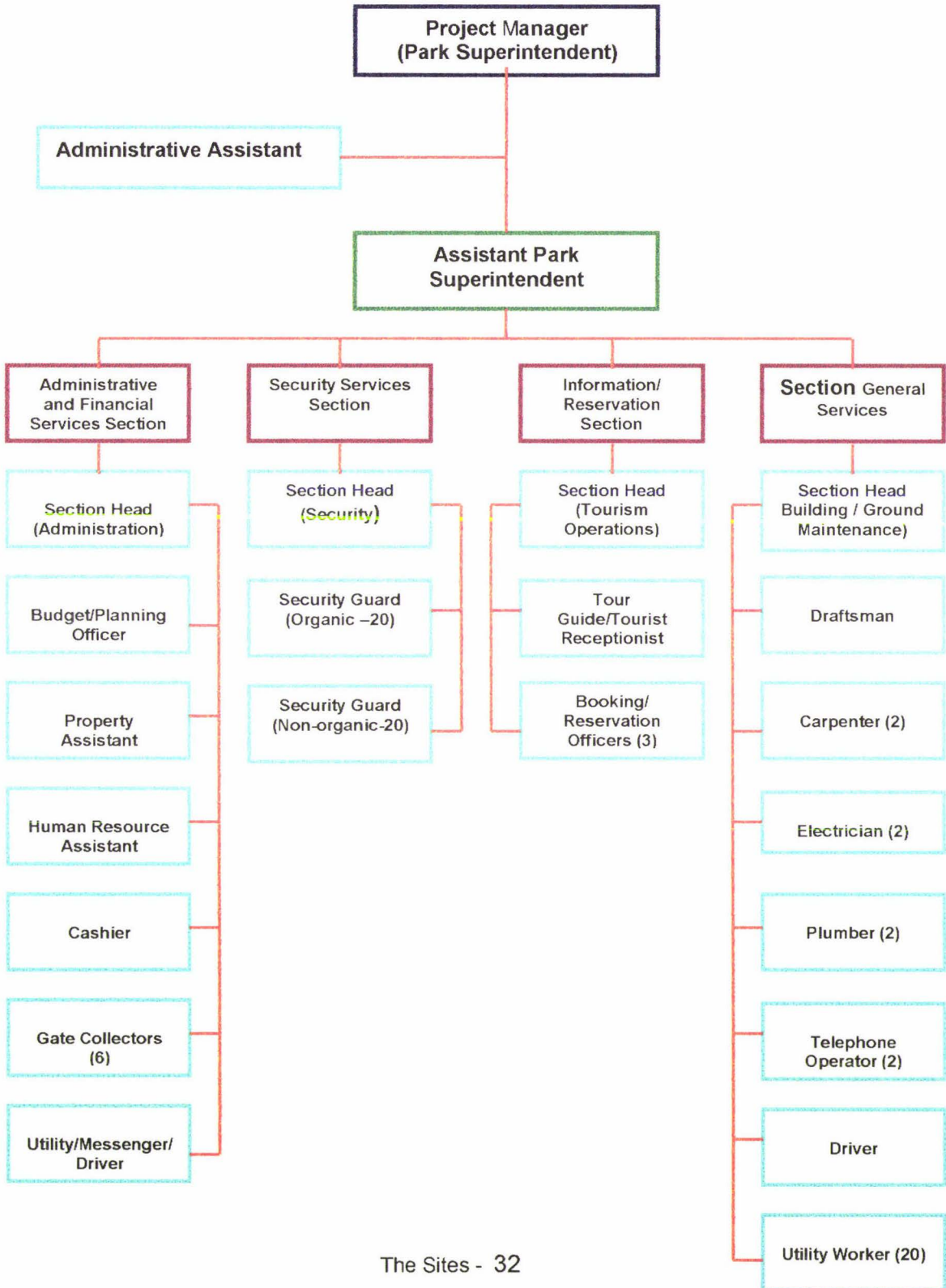
3.1.5 Problems and Issues

The NAPWNC has been faced with several environmental and management problems (which are mostly operational and socio-political) since it came into existence in 1954. Listed below are the immediate concerns within the Park (PAWB, 1998b).

1. There is a shortage of manpower particularly laborers, caretakers and security guards to maintain and protect the park (there are 21 security guards on three shifts and 28 laborers).
2. The number of visitors has to be controlled in accordance with the park's carrying capacity (at the moment such carrying capacity has to be determined in order to regulate the number of park visitors). Visitors in the park have the potential to degrade environmental quality through overuse, damaging behaviors, unplanned access even to sensitive areas, and inappropriate use.
3. The volume of garbage generated by park visitors is compounded by the non-collection by the local government. On an average day, the garbage collection total four (4) pick-up loads. If not collected, the garbage is dumped in an open landfill within the park that is subsequently covered with filling materials brought to the park by dump trucks.

Figure 3.6. Proposed Organizational Chart for WRRC

(as proposed by Director Jesus S. Domingo)



4. There is a shortage of funds for rehabilitation, improvement, maintenance of existing facilities and the construction of new ones.
5. Congestion of wildlife is present at the Wildlife Rescue Center due to the lack of enclosures and the need for adequate laboratory space and facilities.
6. There are approximately 88 families or a total of 1,279 individuals squatting inside the park. Most of the squatter households are either relatives or families of park employees while others are food vendors (there is only one existing kiosk inside the Park to cater to park visitors and employees) (**Figure 3.7**). Relocating them poses a big problem. There have been past instances when Park visitors became victims of petty theft and physical injuries inflicted by teenagers living in the squatter community.



Figure 3.7. Makeshift fruit retail store run by a squatter family at WRRC.

- 7.** There are enormous pressures from NGOs, legislators, private developers and other government agencies for use of space within the park and for conversion of use to either commercial or other land uses.
- 8.** Recreational activities in the Park have induced erosion and increased its rate of occurrence. Because of the large group of visitors spreading out on areas within the Park, site deterioration has resulted. Undesired trails, such as parallel trails or informal trails, have been developed and shortcutting of established trails has occurred[^]. Park management has failed to confine visitors to nodes and corridors.
- 9.** Ground cover vegetation has been impacted by visitor use particularly as a result of trampling, sightseeing/walking and camping. Mature trees at the recreation sites are usually mechanically damaged by actions such as removing limbs, driving sharp objects into trunks, tying strings, wires or ropes and peeling off barks (please see footnote below this page).
- 10.** The animals living within the Park are exposed to unintentional harassment due to the creation of stressful conditions by vehicles (since the Park is bounded by three main thoroughfares) and visitors.
- 11.** The Park has undergone frequent changes of management as a result of changes in government administration. Due to the many institutional reorganizations and juridical struggles, protected areas

[^] Evidences of visitor impacts have been captured on video. Unfortunately, pictures lifted from them could not be printed clearly and be included within the text. However, videos are available for viewing.

administration has historically been weak. More often than not, management thrusts changes simultaneously with changes in management personnel so there are discontinuity of some projects and programs.

12. The staff is not highly trained to give good quality service for visitor satisfaction. WRRC relies on getting technical support from the PAWB staff. Most of the employees are hired as casual employees and are not entitled to attend training and seminars for job enhancement. Besides, employees' tenure of service depends on the availability of funds for such services.

3.2 The Quezon Memorial Circle

3.2.1 Geographic Location

The Quezon Memorial Circle is a 26-hectare park under the jurisdiction of the Quezon City government but under the management and supervision of a foundation. As its name connotes, this Park is inside a big rotunda (roundabout) and is easily accessible to the public from eight (8) entry points. Five main avenues (North, Quezon, Commonwealth, Kalayaan and East) feed into the Elliptical Circle that encloses the Park. Government institutions surround the Park. All of these are shown in **Figure 3.8**.

QMC assumes a similar role as that of WRRC in terms of providing a transition of land uses and a buffer zone for the vicinity.



Figure 3.8. Site map of Quezon Memorial Circle showing the main avenues that flow into the Elliptical Road that enclose the Park, and the government institutions that surround it.

3.2.2 Topography and Physiography

Like the WRRC, the terrain of QMC is flat. For almost 30 years, QMC was a neglected swath of grassland that was a favorite rendezvous of criminal elements, out-of-school youths and lovers alike (Planas, 1999).

The main feature within this park is the Quezon Shrine and Mausoleum (**Figure 3.9**), a one-hectare area at the center of QMC. This monument was built in honor of the first President of the Philippine Commonwealth after whom the city was named.

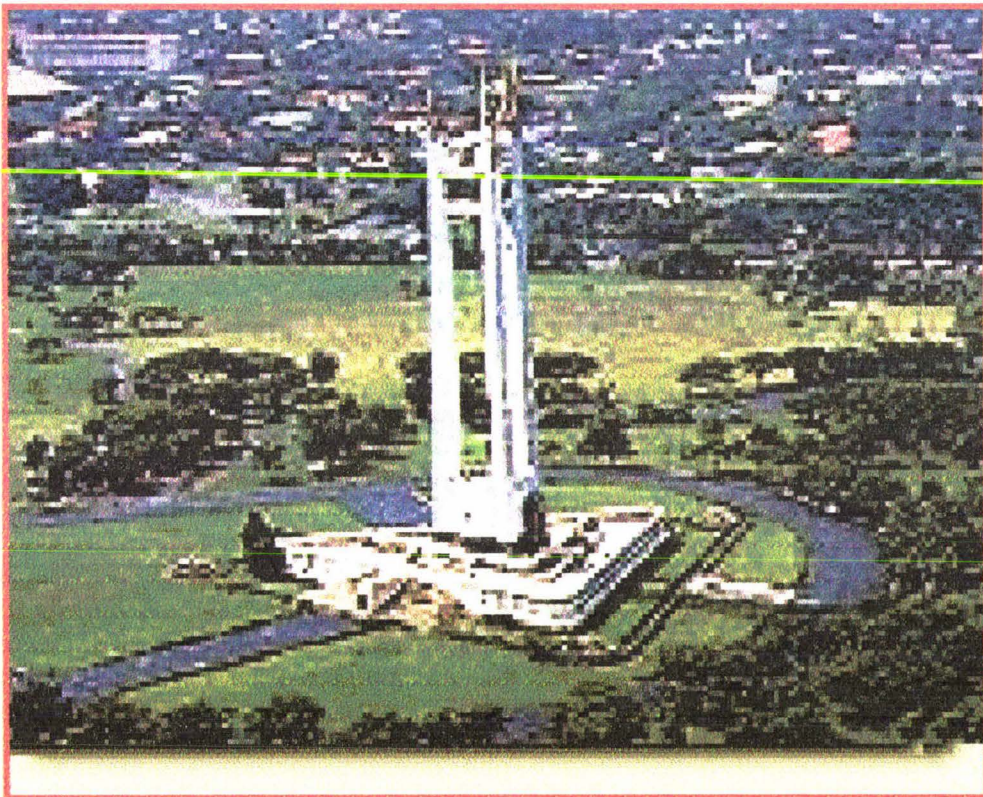


Figure 3.9. The one hectare Quezon Memorial Shrine and Mausoleum

3.2.3 Administration

The development and rehabilitation of the Circle began with the signing of a tri-partite memorandum of agreement between the Department of Tourism (DOT), the National Parks Development Committee (NPDC), the National Historical Commission (NHC) and the Quezon City government on February 28, 1989 (**Appendix 8**). Architect Francisco Manosa was commissioned to prepare a master plan for the park to develop and beautify the area. Former QC Vice-mayor Charito L. Planas heads the Quezon City Parks Development Foundation Incorporated (QCPDFI) that manages and supervises the park.

Other civic-oriented groups assist QCPDFI in the conduct of regular activities and additional funding. Funds for the maintenance and operation of the park are derived from revenues generated from fees collected for the use of the park, rental and donations. **Table 3.3** reflects the government appropriations and expenditures for QMC while **Table 3.4** shows the income generated from the park from 1988 to 1991*.

Table 3.3: Comparison of Income Generated at QMC, 1988 - 1991

Source/Year	1988	1989	1990	1991	Total
Contribution/ Donations	3,024,000.00	70,304.90	41,195.02	280,592.25	3,416,092.17
Interest/ Income	2,194.76	279,397.43	60,077.99	68,431.84	410,102.02
Parking fees			331,541.55	348,725.00	680,266.55
Rental income	500,000.00		307,589.00	1,003,875.90	1,811,464.90
Other income		436,408.00	10,398.89	32,540.00	479,346.89
Grand total	3,526,194.76	786,110.33	750,802.45	1,734,164.99	6,797,272.53

Source: Report on the Audit of the Quezon City Parks Development Foundation, Inc.

* QMC had records only until 1991. After this year, all income generated were converted into donations (per a city ordinance passed by the City Council) and therefore, were not subject to audit.

Table 3.4: Government Appropriations and Expenditures at QMC,
1988-1991

Year	Appropriation	Allotment	Expenditure	Balance
1988	8,486,000.00			
1989	22,200,000.00	22,200,000.00	9,005,097.00	13,114,903.00
1990	21,500,000.00	19,700,000.00	3,803,361.04	15,898,839.96
1991	35,581,000.00	28,776,033.46	2,826,275.00	23,940,758.46
Total	87,767,000.00	70,676,033.46	15,634,733.04	52,954,501.42

Source: Report on the Audit of the Quezon City Parks Development Foundation, Inc.

3.2.4 Plans and Programmes

According to Atty. Planas (from the interview), the master plan by Manosa has been totally disregarded. The QCPDFI does not believe in having a plan, therefore plans and programmes are proposed in board meetings and put into a vote. However, guidelines for future site development within the Park shall adhere to these criteria: (1) respect for the natural environment, (2) search for aesthetic but simple and flexible design solutions (Mañosa, 1989), and (3) productive use of available land (Planas).

Current plans include building a seminar center, cementing pathways, erecting picnic areas with sheds, drinking fountains, clean comfort rooms, and additional parking space.

3.2.5 Problems and Issues

- 1.** The controversy at the QMC is the conflict between two concepts: a national shrine and a people's park. Should the QMC housing the memorial tomb of President Quezon remain as a revered shrine or

should it be, as QCPDFI President Planas wants, a living people's park? (Cunanan, 2000).

2. The question as to whom a public park belongs has always been an issue with regard to QMC. Should it cater to the personal tastes and preferences of city officials, park management and other influentials? Or should it seek to meet the demands of the larger public? (David, 2000).
3. Because the Circle is located in the center of main thoroughfares (**Figures 3.10** and **3.11**), air and noise pollution abound with the added annoyance of dancing music blaring from speakers and lovers using the park as a trysting place (David, 2000).
4. QMC was and still is a haven of criminal elements, gang wars, and immoral activities. Thieves and robbers consider it a secure place to hide and mix among the crowd. Although there is a police detachment located inside QMC, there are not enough Circle security personnel to provide park promenaders the safety they require. Because the Circle is very accessible, school kids come to unwind here after regular school hours and are exposed to all these unsafe elements. There are no entrance fees charged so there is always a huge mix of people that can enter the park at any given time (**Figures 3.12** and **3.13**).
5. Since there is no master plan, unplanned development at QMC is likely to occur. QMC was proposed to be the site of the World Expo 2002. People who lived and worked in the vicinity raised concerns about the impossible burden it would put on the already-chaotic traffic situation. The influx of visitors would also mean additional demands on the area's water supply, waste systems, and peace-and-order situation. The ruckus led to the cancellation of the government's bid to host the international event altogether (David, 1999).



Figure 3.10. The junction between Quezon Avenue and Elliptical Road



Figure 3.11. The approach to QMC and WRRC from Quezon Avenue

6. Garbage collection and disposal is also a perennial problem.
7. Ricky Quezon Avanceña, board member of QCPDFI, is objecting to the way the QMC is run, whereby there is a disco every Friday and Sunday night, and the commercialization of certain areas (from interview). He feels that these activities are a desecration to his grandfather's memory. Philippine Senator Miriam Defensor-Santiago also objects to the disco music, arguing that classical music would harmonize better with the park's memorial concept (Cruz, 2000).
8. Avanceña also expressed strong opposition to a planned billiards and darts hall being proposed by Planas, which had been denied a permit by City Hall. Rafael Galvez, chief of the city's business permits and licensing office, denied the permit on the opinion that commercial development must be kept to a bare minimum in the area (Lacuerta, 2000).
9. Objections to the development of a 30-storey complex complete with a mall arose to ensure that the memorial erected in memory of that nation's founder retains its primacy and symbolic value. If built, it would not only dwarf the Quezon Monument but also swamp the Circle and its environs under the tidal wave of commerce (David, 1999).
10. The question as to who should be responsible for the maintenance and development of the Circle remains as QCPDFI still relies on the Quezon City Parks Development and Administration Department (QCPDAD) personnel to help do the job. There is still inadequacy of personnel and motorized equipment (QCPDAD, 1992).



Figure 3.12: School kids on an extra-curricular activity at QMC



Figure 3.13. The mix of park promenaders at Quezon Memorial Circle.

3.3 Comparison of the Sites

The sites are compared to distinguish the concepts and management styles used and to show how these concepts and styles have affected the sites. **Figure 3.14** shows the relative location of the parks in Quezon City while **Figure 3.15** gives an aerial view of the two sites adjacent to each other to differentiate how the parks look today.

WRRC is projected to be an ecological destination park while QMC is seemingly being converted to a recreational and entertainment theme park. Because there are no entrance fees charged for QMC, more students between ages 12 to 17 (high school and college levels) come to visit this park. On the other hand, most visitors at WRRC belong to the age bracket between 20-22 and 36-37 (young professionals).

WRRC obtained its highest revenue in 1994 in the months of January and February even if the number of visitors were starting to decline two years before that. The trend is increasing from 1988 to 1994 for revenues generated while the number of visitors did not fluctuate too much. The most number of visitors that came to WRRC was in 1990. QMC does not have records to show the number of visitors per year. QMC generated the greatest revenue in 1988, the year the Foundation started to manage it.

QMC does not maintain an inventory of its flora and fauna nor its physical resources. Although entrance fees are free for QMC, it charges more for the rental of its facilities than WRRC. Common problems are garbage disposal, security, and lack of funds and personnel. **Table 3.5** gives an overview and comparison between QMC and WRRC. While both sites emerged from the Quezon Memorial National park, each has been transformed differently through the years.

QUEZON CITY

COMPREHENSIVE LAND USE PLAN YEAR 2000

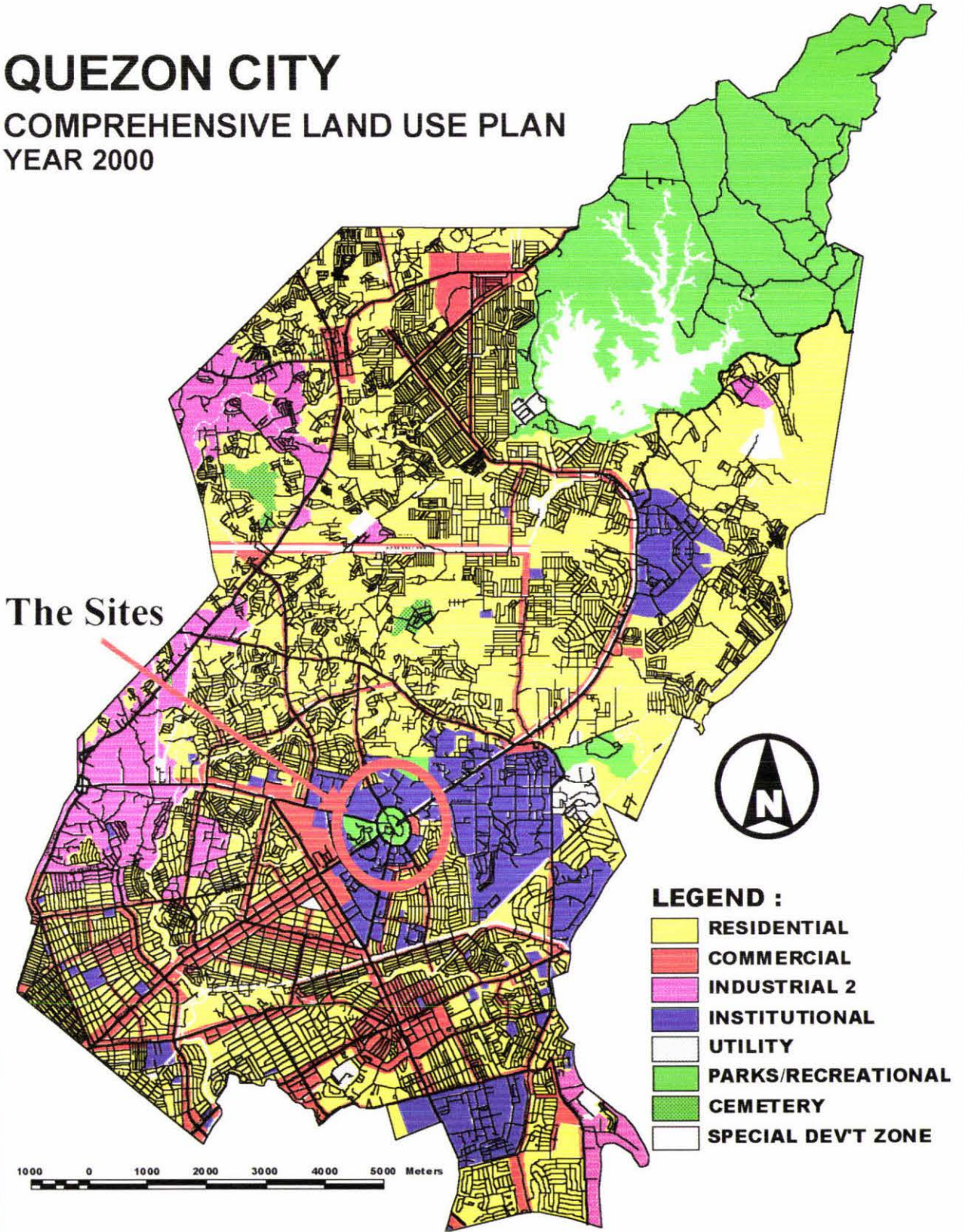


Figure 3.14 Relative location of QMC and WRRC in Quezon City

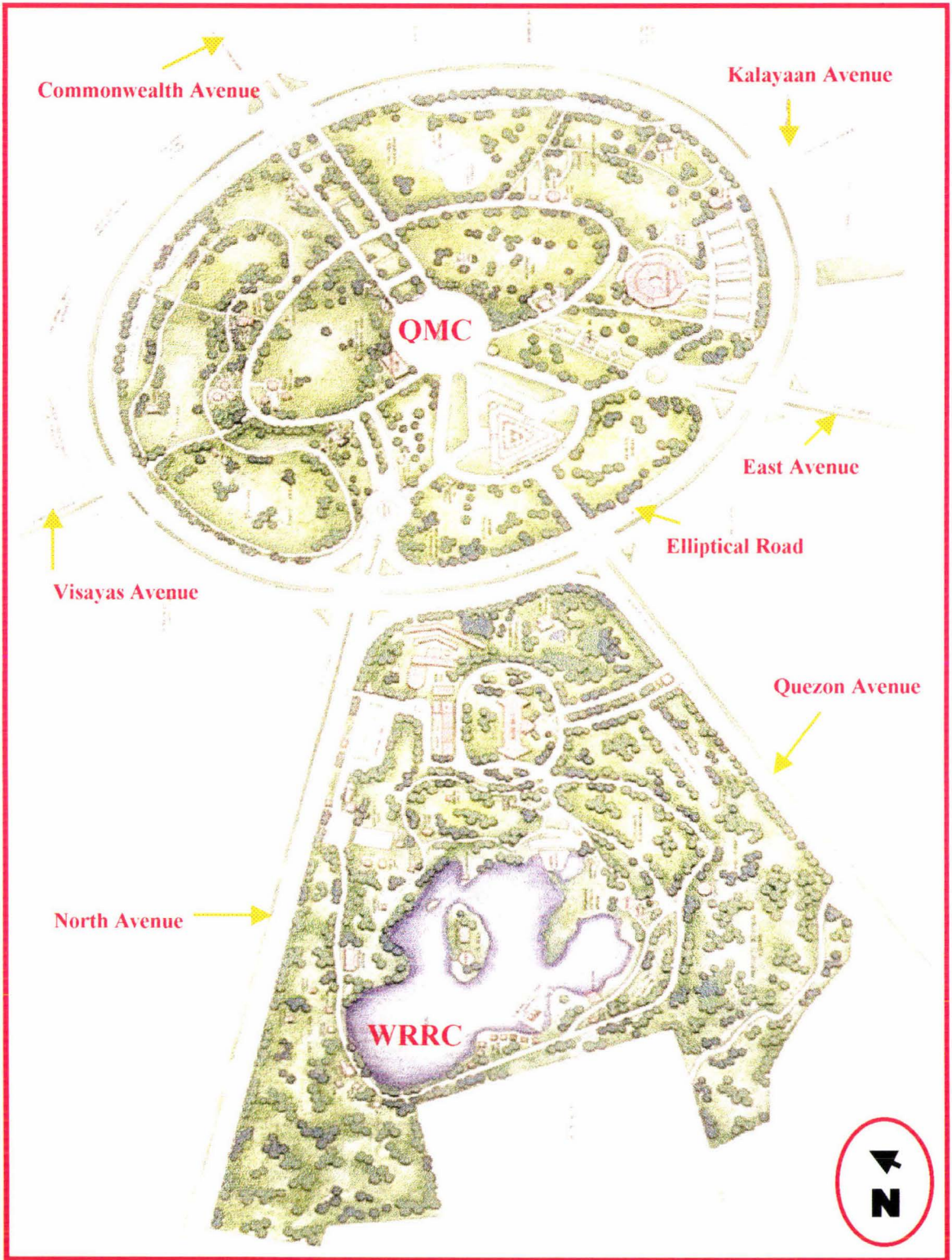


Figure 3.15. Aerial view of QMC and WRRC adjacent to each other

Table 3.5 : A Comparison of QMC and WRRC

Features :	QMC	WRRC
Area	26	24
Administration	LGU (Quezon City)	National (DENR/PAWB)
Staff complement	31 by QCPDFI 17 by QCPDAD	11 regular 72 casual
Revenue generated	P 3,526,194.76 (Highest in 1988) 1,734,164.99 (Lowest in 1991)	P 4,635,970.75 (Highest in 1994) 1,635,932.00 (Lowest in 1988) 510838.00(Highest in February, 1994) 61,332.00 (Lowest in June, 1988)
Type	national historical shrine/ public urban recreational park	wildlife and nature center/ ecological destination
Number of Visitors	No data	746,213 (Highest in 1990) 359,860 (Lowest in 1998) 90,062.00 Highest in February, 1990 17,821.00 Lowest in June, 1998
Topography	Flat	Relatively flat
Flora	No inventory	2616 plants/ 79 species
Fauna	No inventory	301 animals/ 67 species (in isolation) 536 animals/ 67 species (on display)
Special feature	Quezon Historical Shrine	Lungsod Kalikasan zoo man made lake
Opening hour	5:30 AM	7:00 AM
Closing hour	10:00 PM	7:00 PM

Table 3.5 : A Comparison of QMC and WRRC (page 2)

Fees :	QMC	WRRC
Entrance - Child	Free	5 years below free
Adult	Free	P 8.00
Student	Free	60 years above free
Foreigner	Free	5.00
Disco	P 5.00	\$2.00 or peso equivalent
Ballroom Dancing	30.00	
Parking - Cars/JEEPneys	P 15.00	P 15.00
Cans/Coasters	30.00	15.00
Buses	100.00	25.00
Rental - Bicycle	P 30.00	
Skating - Child	20.00	
- Adult	30.00	
Tiangge booth	200.00/day	300.00/day
Amphitheatre	Donation	350.00/day
Food concession	22,000.00/month	
Bicycle/Skating concession	10,500.00/month	
Vendors	100.00-200.00/month	
Kiosks	2,500.00/month	
Tea House		300.00/day
Picnic Grove	Free	50.00/shed/day
Carabao cart		35.00/cart/day
Nipa Hut		50.00/hut/day
Movie/Commercial Shoot	Donation	3,000.00/day
Basketball/Volleyball court	20.00/hour/day 50.00/night	50.00/use
Problems and Issues :	QMC	WRRC
	<ol style="list-style-type: none"> 1. Uncertainty of concept 2. Ownership 3. Air/noise pollution 4. Security 5. Unplanned development 6. Garbage collection and disposal 7. Commercialization 8. Conflict of uses 	<ol style="list-style-type: none"> 1. Manpower shortage 2. Visitor control 3. Garbage collection and disposal 4. Budget/lack of funds 5. Congestion of wildlife 6. Illegal occupants 7. Security 8. Outside pressure 9.. Physical/environmental damage 10. Changes in management 11. Lack of training and security of

Table 3.5 : A Comparison of QMC and WRRC (page 3)

Management Objectives :	QMC	WRRC
	<p>The prime intention of development is to give unity and organization to the park while creating more activity areas to develop it into a place of richer settings for cultural, educational and recreational events.</p> <ol style="list-style-type: none"> 1. Promote and encourage the active participation of the private sector in the development and management of the park. 2. Promote and encourage the proper use by the public of the local park in coordination with the Quezon City government, the general public and other similarly-oriented agencies and entities. 3. Provide financial support and extend assistance to the Quezon City government in its endeavor to develop, manage and operate all designated parks and open spaces. 	<p>For the whole park:</p> <ol style="list-style-type: none"> 1. To promote outdoor recreation in a natural environment in an urban setting through improvement and upgrading facilities and amenities for the enjoyment and safety of the visiting public 2. To further enhance the park's landscape through enrichment planting with endemic botanical specimen thereby developing more diverse representation of Philippine terrestrial plants 3. To improve and upgrade the zoo and to obtain more zoological specimen to represent the diverse Philippine wild fauna 4. To promote appreciation and understanding of the meanings and interrelationships of the component of the natural environment through actual experience of the resource <p>For the Rescue Center :</p> <ol style="list-style-type: none"> 1. To provide temporary and appropriate shelter for confiscated, donated and/or abandoned wild plants and animals 2. To provide isolation and quarantine facilities for confiscated, donated and abandoned wild plants and animals 3. To provide adequate care and maintenance for confiscated, donated and/or abandoned wild plants and animals with the ultimate objective of releasing/putting back to the natural habitats those that are fit to survive

Source : PAWB, 1999;1998 a & b
Tri-partite MOA - NHI/QC/DOT

DENR AO 2000-46
DENR AO 1993-47

Chapter 4. Park Management within Urban Protected Areas

Management plans have been used as a tool to gauge how a site is to be used, developed, and managed. Over the years, changes have occurred in the approach and form of management plans. In the early years there was a tendency to include a lot of information that was not really relevant to management objectives and strategies. Today, the trend has changed towards more specific and strategic management plans. Greater emphasis is put towards meeting targets and objectives and park managers are encouraged to have a direct hand in the preparation of management plans. Ownership of park management plans is now credited not only to managers but to the public as well.

In the Philippines, preparation and presentation of management plans have always been a general requirement before any funding can be approved and appropriated to carry out programmes for a protected area site. However, immense importance is placed on meeting performance and evaluation targets.

Figure 4.1 shows the evolution of protected areas management over the years. The diagram reveals the shift in the emphasis of management plans most probably because of the changing needs and challenges in park management. In this chapter, purposes and types of management plans and several options for park management are presented and discussed which the writer finds relevant to the two sites under study.

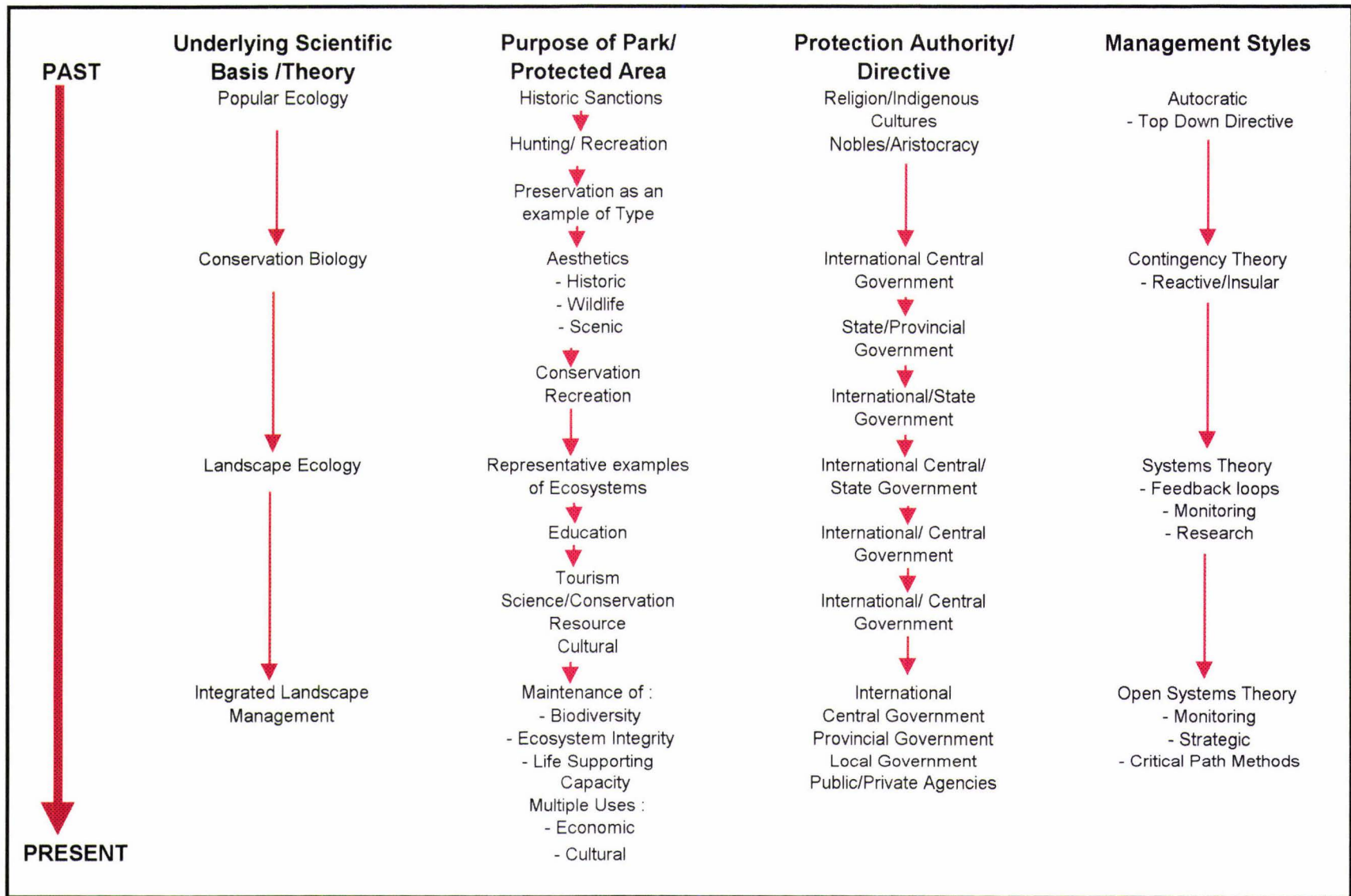


Figure 4. 1. The evolution of protected areas management

Source : Lifted from the lecture notes of Paper 132.733 - Environmental Planning under Dr. Johanna Rosier, Massey University

4.1 Definitions

4.1.1 Parks or Recreation Areas

Parks are tracts of tax-supported land and water, established primarily for the benefit and enjoyment of the public and maintained essentially for outdoor recreation (Sharpe, et al, 1994). As such, the term is also synonymous to a recreation area.

Sharpe, Odegaard and Sharpe (1994) define two types of recreational areas:

1. **Activity-oriented, structured** recreation areas are usually restricted to urban or suburban parks that depend on certain constructed features or facilities such as play fields. There is an organized formal structure imposed by the facility and shored up by rules.
2. **Resource-oriented, non-structured** recreation areas are parks where there is dependence on a particular resource or a combination of natural (land and water) resources. These resources shape the types of activities pursued and park personnel function primarily as safety-conscious hosts and guardians of the resource.

The two sites selected for this research can be considered as a cross between these two types of recreation areas primarily because of their location (Quezon City as being urban) and function. WRRC in particular is more resource-based while QMC is more activity-oriented.

4.1.2 Park Manager

A park manager represents the person in charge of the park's management. This person can be a director, superintendent, supervisor, chief, warden, or staff whose responsibility is overseeing the management of the park. Whenever these terms are used in this research, they connote the definitions as cited.

4.1.3 Management Plans

Management plans are tools used to indicate how a resource is to be used, developed, and managed. Over the years, changes have occurred in the way management plans are formulated and prepared with a greater emphasis on setting performance indicators and targets (ANZECC, 2000).

A management plan for park and recreation areas should establish the overall direction for visitor and resource management. It should be used as a basis for on-going, day-to-day management decisions and actions. The plan translates agency policies into courses of action necessary for achieving and maintaining desired resource conditions and programme direction.

The scope and details of the plan depend upon the size, kind, and operational characteristics of the park or recreation area's resources and users. The plan's content should provide direction for the progressive and orderly planning, resource management, maintenance, operation and programming of the site to serve the public. The plan should preserve or, where appropriate, enhance the park's resources for continued availability while at the same time providing for optimum visitor use. Above all, the management plan should be a working document for continuous use by those responsible for the site's management.

The management plan must consider both the natural and the cultural features of the park's resource base. This database should also provide for the identification of critical resource problems in need of immediate attention and those areas where future problems are likely to occur. The implementation strategy should provide monitoring measures to assess progress in implementing the plan and provide a means for identifying and solving future problems.

The plan should establish a procedure to implement relevant findings and update the document and the subsequent management direction as new information becomes available. It should provide back-up information including a record of the location of significant facts, maps, agreements, and other pertinent information.

The EMB (1996) in the Philippines enumerates five (5) important points that the management plan for protected areas should contain. They are:

- 1.** National and specific objectives and priorities;
- 2.** Classification system, map showing the distribution of biogeographical units, options for expanding the protected area system, and the most cost-effective means of achieving the objectives of the protected area system;
- 3.** A monitoring system, a plan to manage key species, a strategy for promoting the plan to government agencies, the general public, and NGOs;
- 4.** Direct and indirect benefits of protected areas, proposed land use integrating protected areas, and
- 5.** Legal and institutional systems to achieve conservation.

4.2 The Purpose of Management Plans

The primary purpose of management planning is the interpretation and integration of a range of policies, treaties, strategies, business plans and legislative requirements into a geographical overlay that provides an essential framework to guide management of a particular site (reserve) and assure the public that the area is being responsibly managed (ANZECC, 2000).

Under this declaration of purpose, the Australia and New Zealand Environment and Conservation Council (ANZECC) enumerates specific purposes of management plans as:

- 1.** Ensuring that sites are managed to achieve objectives of legislation, stakeholder expectations, corporate goals, and conservation management objectives to achieve quality assurance, consistency, and prevention of incremental degradation through ad hoc decision making;
- 2.** Gaining public involvement in site management by giving the general public a way to have their say about management;
- 3.** Developing a shared understanding of, and a vision for, the site by identifying the significance of an area, consolidating legislative and policy issues, integrating various elements of management, and conveying to the public and management staff how the site will be protected and visitors provided for, and
- 4.** Providing public accountability by having a "statement of intent" for the community, knowing what to achieve, and formulating a criteria by which the performance of management under the plan will be assessed.

Perhaps one of the most important purposes of a management plan is to provide for continuity as changes in management personnel occur. The implementation of the plan continues even as park management personnel come and go.

4.3 Types of Management Plans

Fogg and Shiner (1989) has differentiated three types of management plans for parks as follows:

- 1. Prestige plan** – a plan generated to impress someone; always extensively illustrated with many high quality photographs and graphic presentations; tends to contain an excessive amount of frequently “nice” but irrelevant and sometimes useless data; usually written in professional jargon with a liberal sprinkling of scientific terminology and may contain a significant amount of highly technical resource base information;
- 2. Practical plan** – produced to provide park personnel with a working document that can continually be consulted to provide day-to-day guidance in the management of park and recreation resources; usually short, succinct, and to the point with only those pictorials and graphics necessary to implement the plan; written to be easily understood and identifies specific implementation actions; it is ideally easy to work with, update and/or change as the situation demands, and a

- 3. Public plan** – produced to present management data to the general public for comments and recommendations; must be written at a simplified level if meaningful public involvement is desired; must have numerous illustrations and graphic presentations to convey ideas and concepts to encourage useful responses from the public; requires careful preparation, a long period of time to prepare, and quite costly to produce.

Fogg and Shiner (1989) also cited the park management planning process used by the Minnesota State Parks system that is designed to produce two companion documents:

- 1.** The **General Park Management Plan** (GPMP) is a short, comprehensive, and non-technical document for public information.
- 2.** The **Management Plan Detail** (MPD) is a detailed, technical document for management specialists.

Lancaster (1983) also suggests a **policy plan** – a strategic management tool for the executive branch and a guidepost for the legislative branch. The focus of attention of a policy plan is on a broad policy framework that should provide more flexibility for guiding governmental response.

The US Army Corps of Engineers (Fogg, 1990) has devised a **project safety plan** that relates to pertinent aspects of safety hazards and preventive measures prescribed to reduce or eliminate them. Special emphasis is placed on visitor and employee safety in such areas as administrative facilities, structures, sanitation, and access and public-use facilities. The plan also outlines public information procedures for storm warnings, terrain and water hazards, and emergency instructions. Aspects such as crowd control and hazard marking are also addressed in the plan.

4.4 Planning and Implementation Process

Figure 4.2 gives the general view of a protected area management planning system while **Figure 4.3** illustrates the protected area management planning process. The process starts with a decision to prepare a management plan and determine its extent. Community consultation is done prior to preparing a draft plan and inputs from other stakeholders are encouraged. The plan is then implemented after the approval of officials.

The US National Park Service (Fogg, 1990) on the other hand, follows this planning process for park management. It consists of the following:

1. **Statement of management** is used to guide short/long term management of the park and to determine the nature and extent of planning required in meeting the objectives. The statement provides a general framework for directing park operations and for communicating park objectives to the public.
2. The **task directive** is an agreement outlining the park's planning needs and the tasks to be undertaken.
3. The **collection of information base** involves gathering information on the park's natural and cultural resources, areas and facilities, and projected visitor use through a thorough resource inventory, review of the park's master plan, and visitor use projections.
4. The **development of management alternatives** and **their environmental assessment** based on the information base are scrutinized in relation to their potential impact on the park's resources and visitor use.
5. The **draft management plan** with the EIS is distributed for final review and comment. It presents the guidance for management of park resources and visitor use and directions for future development.

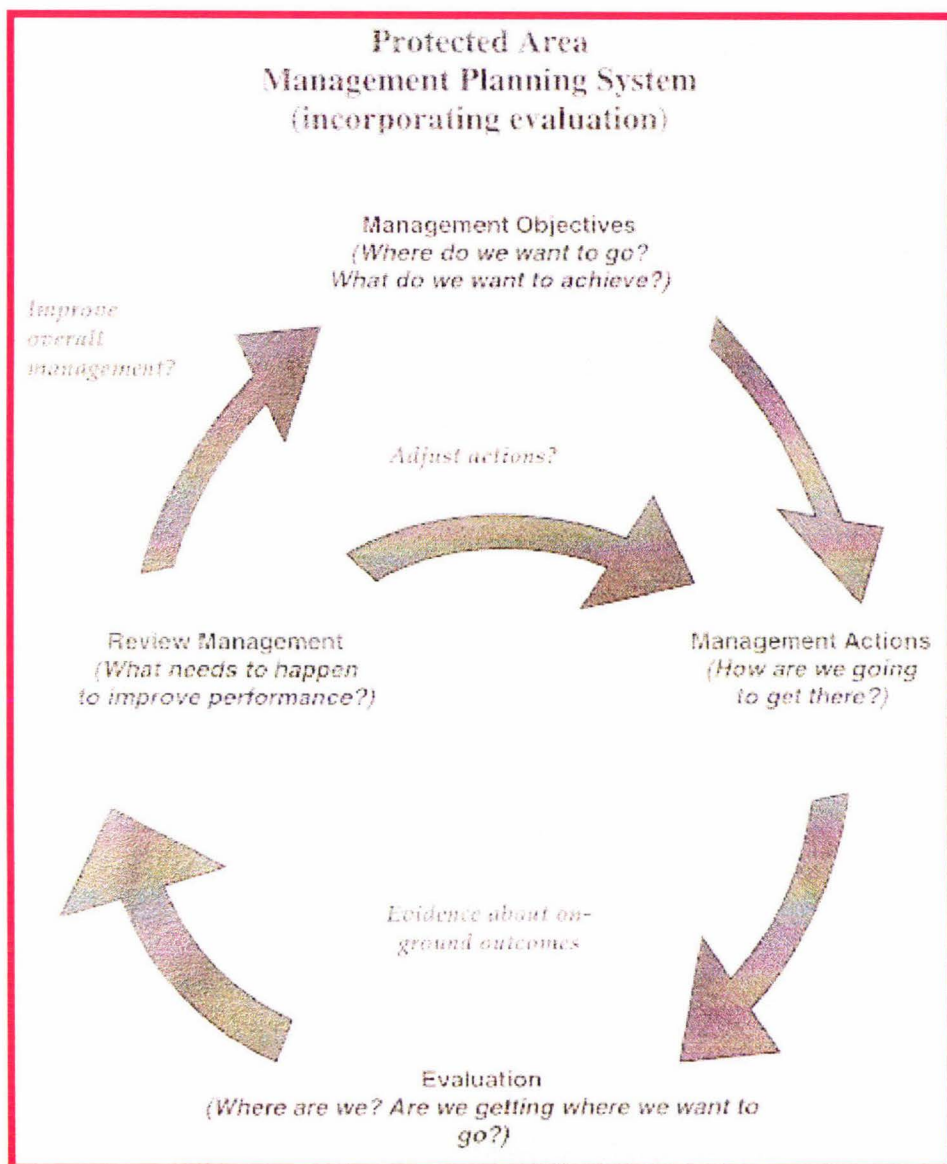


Figure 4.2 : The Protected Area Management Planning System model

Source: ANZECC, 2000 : *Best Practice in Protected Area Management Planning*, page 7.

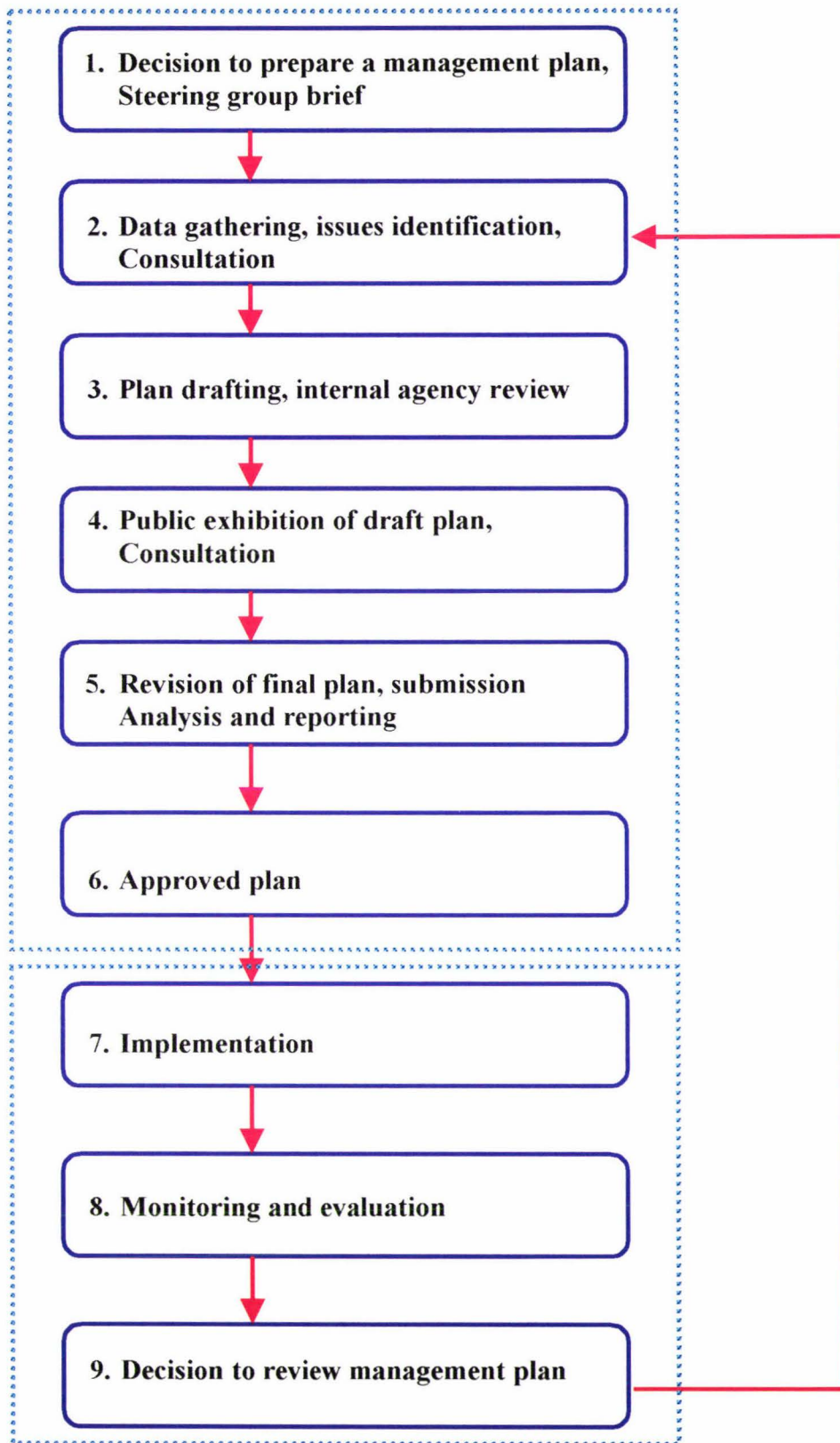


Figure 4.3: A model of protected area management planning process
 Source: ANZECC, 2000: *Best Practice in Protected Area Management Planning*, page 8.

The implementation of the management plan must be conducted and reinforced at all levels of the park management system, from the decision makers to the supervisory staff and, most importantly, to the field staff. The function of the decision-makers does not stop with the approval of the management plan. Their support must be guaranteed, especially in terms of budget priority. The staff must believe that all levels of the park agency support their efforts to implement its provisions, particularly during the budget approval. Available financial resources should be channeled in such a way they assist and support in carrying out the management plan directives.

One specific activity that will go a long way in assuring compliance in carrying out the management plan is to conduct frequent and regular review of the park to determine how well the park is maintained and operated.

The management plan should provide for regular assessment of park needs with an adequate feedback mechanism to permit the inclusion of new and more appropriate objectives and strategies. The use of a multi-disciplinary team places great emphasis on the development of alternative management strategies.

The Florida Division of Recreation and Parks (Fogg, 1990) illustrates a **park management criteria statement** that outlines the management guidelines used to manage park resources and visitor use within a specific park. The criteria is implemented only when:

1. Management actions cause no significant changes in the park environment and are in accordance with approved criteria;
2. Improvement or rehabilitation of existing facilities or minor improvements is necessary to meet health and safety requirements;

3. Providing normal maintenance to roads and trails; and
4. Providing routine maintenance to prevent damage to, or deterioration of, historic structures, sites, and objects.

4.4.1 Other Options for Implementation

Mitchell (1997) in his book **Resource and Environmental Management** listed several other management options that can be implemented in parks within protected areas. Hedging and flexing are strategies for decision-making under conditions of uncertainty. Synoptic planning, incremental planning, and transactive planning are models that address complexity and uncertainty. Adaptive management and integrated management use the ecosystems approach to managing protected areas through components and linkages. They are briefly discussed in the next ten (10) sub-sections.

4.4.1.1 Hedging

Hedging involves a conscious choice to avoid the worst consequences by comparing all the options against the estimated worst case and then selecting the alternative with the least destructive outcome. It is a reasonable strategy under extreme uncertainty but not the best strategy under conditions of ignorance (Mitchell, 1997, page 82). In hedging, there is always the likelihood that another option than the one taken might be better if only the planner or decision maker were aware of such.

Hedging is an appropriate strategy if it is unlikely that a decision or an action can be reversed or significantly modified. Hedging tends to lead to preservation of status quo, or slight variations of it, or to premature adoption of new technologies since they are viewed as the way to resolve problems.

4.4.1.2 Flexing

In flexing, the decision-maker systematically looks for errors, or monitors any decision by continuing to scan for other options after the decision has been taken. There is little point in searching for errors unless there is scope for making an adjustment and decision makers should always favor flexible options or ones that can be revised if they are found to be inappropriate. Flexing involves seeking the best option, risking the worst outcome, but being ready to modify or reverse a decision if the worst outcome should occur (Mitchell, 1997, page 83).

Flexing provides the opportunity to achieve the best possible outcome; it is not a prescription to do nothing and hope for the best. Flexing increases flexibility by broadening the range of options considered. It seeks out the best option, but recognizes that monitoring is needed so that if the worst does happen then changes can be made to limit damage.

4.4.1.3 Synoptic Planning

Synoptic planning or comprehensive rational planning is based on the assumption that the individual has the capacity to identify and rank goals, values, and objectives. This individual can also choose consistently between them, having collected all the necessary data and having systematically evaluated them. If the planner or analyst collects enough information, completes enough analyses and studies long enough, he/she will be able to understand the situation, and therefore manage or control it.

The well-established steps in synoptic planning are: (1) defining the problem, (2) establishing goals and objectives, (3) identifying alternative means of achieving the goals and objectives, (4) assessing the options against some

explicit criteria, (5) choosing a preferred solution and implementing it, and (6) monitoring and evaluation. Feedback loops link these steps so that changes are incorporated into planning after findings or experiences are evolved (Mitchell, 1997, page 84).

4.4.1.4 Incremental Planning

This option is based on the idea that people are “boundedly rational”(i.e. they search for a solution which is good enough or satisfactory and which does not need to be the optimum) and they sacrifice rather than maximize. It was developed to describe how things often happen in practice but over time, it has been also interpreted in a normative or prescriptive manner. The characteristics of incremental planning are (Mitchell, 1997, page 86):

- The problem is not clearly defined and the major task for the policy maker or planner is to determine the nature of the problem to be handled.
- Goals, values, and objectives may conflict with one another.
- Only a limited number of options are considered and those differ only incrementally from each other from the existing policy or practice.
- For each option, only a restricted number of significant impacts are identified.
- The problem is redefined on a regular basis. Ends are modified with regard to available means.
- No single correct solution exists. The policy maker often does not know what is wanted but knows what should be avoided. Policies move away from bad or undesirable things without necessarily moving systematically towards good or desirable outcomes.

- The decision or policy process never ends. The process is viewed as a sequential change involving an ongoing series of incremental decisions.

The incremental approach concentrates attention upon familiar and better-known experiences, reduces the number of alternatives to be explored, and reduces the number and complexity of variables to be considered.

4.4.1.5 Transactive Planning

In transactive planning, it is important to consider the experience of people who will be affected by the planning decision. It involves a face-to-face contact between the planners and those most affected by their activity. The key elements are interpersonal dialogue and mutual learning (Mitchell, 1997, page 85). The planner in transactive planning is transformed into a facilitator and participant instead of a distant expert. The planner is not assumed to hold all the necessary or useful knowledge but is seen as a person with a constructive contribution to make. There is decentralized decision-making because the local people are provided with more control over planning. Therefore, this process is consistent with the ideals of social justice, equity, and empowerment as spelled out by sustainable development.

4.4.1.6 Adaptive Management

Another approach to park management is adaptive management. An adaptive approach to park management is helpful because it assumes incomplete understanding of ecosystems and anticipates both unexpected events and unpredictable courses of nature (Mitchell, 1997, page 54). With adaptive management, the emphasis is placed on treating management as a learning experience, and encourages approaching management as a series of

experiments from which new knowledge leads to continuous adjustment and modifications. Monitoring is a key activity in adaptive management. Planners and managers will have to improve their capacity to deal with conflicting legal mandates and management objectives (Borrini-Feyerabend, et. al. 2000).

This type of approach requires the collaboration of interest groups, the identification of shared values, continuous learning, evaluation, and modification. It is an open-ended unfolding process and has been referred to also as interactive planning.

4.4.1.7 Integrated Management

A very similar approach to adaptive management is integrated management. An integrated approach retains most of the core ideas of being holistic, but is more focused and therefore more practical. The key distinction is that an integrated approach does not seek to analyze all components and linkages, but concentrates upon what are judged to be key components and linkages (Mitchell, 1997, page 56).

The integrated approach results in a more limited focus being taken for a number of reasons. First, it accepts that we are unlikely to be able to understand all of the variation in a system. If analysts or planners could account for and understand the components that cause 75-80% of the variability in a system, they would usually be satisfied. Second, a relatively small number of variables cause a large proportion of variation. As a result, understanding their role is usually sufficient for developing effective management strategies. Third, even if most variables could be identified and understood, many of them cannot be readily modified or changed by managers, so the value added from such insight is not high. Fourth, an integrated approach is likely to keep expectations for a

plan more realistic, and also allow plans to be completed in a more reasonable time frame (Mitchell, 1997).

Welch (1995) also recommends several options for managing parks. These include management by objectives, benefits-based management and benchmarking.

4.4.1.8 Management By Objectives

This approach involves a situation where the superior and subordinate managers jointly identify common goals, define each individual's major areas of responsibility in terms of the results expected, and use these measures as guides for operating and assessing the contribution of each member. It means working towards targets, setting aims, and seeing them in a wider context. It is within this framework that those who supervise the parks every day have to work, to set their agenda, determine what to do, and shape the attitude they take. Welch feels that park personnel should always bear the last item in mind to keep them focused on their goals.

4.4.1.9 Benefit-based Management

The initial step in this type of management is assessing the benefits the public gets from a given facility or activity before specific priorities and aims are worked out. It affects the way visitors are treated by looking at the gain they make from using the park. It is a step forward from the primary object of giving the simple physical provision and maintaining the facility.

The basic purpose of benefit-based management is to provide an array of benefit opportunities that users can choose from given that parks are affected by external pressures and operate in a wide environment. This could be coupled with

an up to date management information system so that data and information will always be available to park users and to park staff as well.

4.4.1.10 Benchmarking

The idea of benchmarking is to learn lessons from similar parks. It involves measuring details as well as assessing how similar park organizations operate, mapping management processes, comparing them, and improving upon the best practice. Not only does this need a great deal of self-knowledge but also a sharing of information to allow comparisons over a wide range of approaches.

Park planners and managers encounter changing conditions, needs and expectations. What might have been acceptable at one time period may not be accepted at a later time period. The impacts of human activity on the natural environment and on cultures are often difficult to understand and predict. Cause-and-effect patterns are difficult to determine due to multiple variables and paths of interactions. That is why sometimes planners and managers have to make decisions without complete information or understanding of the ecosystems for which their decisions can have adverse consequences (ANZECC, 2000).

Park management must keep records of the results from their decisions and actions so that successes and failures can be measured and documented. Systematic monitoring generates useful information and insights.

Trist (in Mitchell, 1997, pp.75-76) presents different types of planning/decision-making scenarios that could be helpful to understand situations that park managers and planners face. He classifies them as follows:

- 1.** Simplest, one in which opportunities and problems are randomly distributed, and organization is simple. The best strategy involves

each person doing as well as possible on a local scale. The planning style is inactive, or one in which the present is judged to be better than the past or the future. The conventional wisdom is captured by expressions such as "it is better to wait and see," "look before you leap," or "let sleeping dogs lie."

2. Conditions continue to be relatively stable or unchanging. Opportunities and problems start to group or cluster. The best strategy is to find an optimal location to take advantage of the opportunities. The planning style is reactive, and the past is regarded as preferable to the present of the future. Folk wisdom stresses "the good old days," or "Paradise Lost."
3. Disturbed reactive conditions where the environment is dynamic and changing. The best strategy is to amass power, as competitive challenges can best be met through accumulated resources and abundant expertise in which emphasis is placed upon centralized control. The future is viewed as better than either the past or present. Consequently, emphasis is on improving the capacity to predict and to prepare. Attention is given to judging where the "best waves" are going to come from and then to ensuring that you ride the best one and keep others off it. This is termed as **technocratic planning**.
4. Turbulent environment or field where many large and competing organizations act independently and take actions in diverse directions. The outcome is unanticipated and discordant consequences shared by all. No organization is so big that it can control things or is able to do things on its own. A new value becomes collaboration, reflected through consortia building and

sharing, all of which conflict with the basic values found in type 3 above. The concept is increasing involvement by the government in a collaborative manner with the private sector to try to achieve greater stability. Planning is interactive. Any desirable future will depend on people making it occur, thereby emphasizing the need to make choices between alternative futures.

Park managers must recognize the need for caution and to move away from always being reactive in planning and management. There is a need for foresight into procedures that is termed as the ***precautionary principle*** ("an ounce of prevention is a pound of cure"). This principle stipulates that rather than waiting for complete understanding, or certainty, managers and decision makers should anticipate potential harmful environmental impacts from actions, and take decisions to avoid such harm. It also recognizes that uncertainty is a key part of reality, due to lack of complete knowledge about ecosystem behavior, faulty assumptions about ecosystem functions, inability to predict the size, needs and desires of future populations, and difficulty in forecasting future technical innovations.

The application of the principle should never mean that all developments with certain environmental impacts should be stopped. When a possibly irreversible action that could have unpredictable consequences in the future is being contemplated, all alternative options need to be considered before taking a final decision. Such irreversible actions should be undertaken only when it is concluded that not doing so could impose significant costs on the present generation.

4.5 **Public Consultation and Participation**

Public participation allows the community to contribute to the development of management plans and often encourages both parties to be more constructive. The public participation process is not a matter of releasing draft management plans for people to comment on if they have the inclination and time to do so. It requires a clear mandate from management and a clear awareness of objectives (Hall and MacArthur, 1993). Some key factors in the process are:

- Acknowledging that involving the public means you are asking them to perform a service for you;
- Specifically identifying what you need from the public, and what you can offer them in return;
- Identifying key groups and their relative importance to the management process;
- Developing individual strategies for each group that includes the opportunity for “feedback on the feedback process,” and
- Implementing the strategies and commencing review.

Some of the techniques used in the public participation process include (a) media advertisements, (b) hotlines, (c) trained personnel for inquiries, (d) public meetings (general and specific), (e) focus group discussions, (f) surveys, (g) polling, and (h) information sheets.

If park management is to accurately reflect local needs and is truly interested in what public has to say, then management should develop good rapport with them. The public can be informed or be asked for information. It can also be involved in the decision-making process up to and including making official recommendations which will be considered fairly by the approving authority.

The public must know at the onset the degree of their involvement; otherwise, the effectiveness of the entire public involvement could be jeopardized. Public involvement which is intended to solicit only input on desired activities but which the people think is to make recommendations for development and programming can cause serious problems if their unsolicited recommendations are not considered in or responded to by the approving authority (Fogg and Shiner, 1989). Each person or group to be involved in the planning process must know what their responsibilities are and how they relate to the completed management plan.

Public involvement in the planning process will extend the planning time needed and increase staff and financial costs. It takes time and money to conduct a people involvement program. However, if the objective is to produce a high quality and comprehensive management plan, then cost and time are the necessary tradeoffs. The management plan should be made as detailed as necessary to properly manage the park. The more details, the more involvement by various groups and individuals, the longer the time needed, and the more costly the product. **Figure 4.4** shows how the degree of public involvement can be in the planning and decision making process.

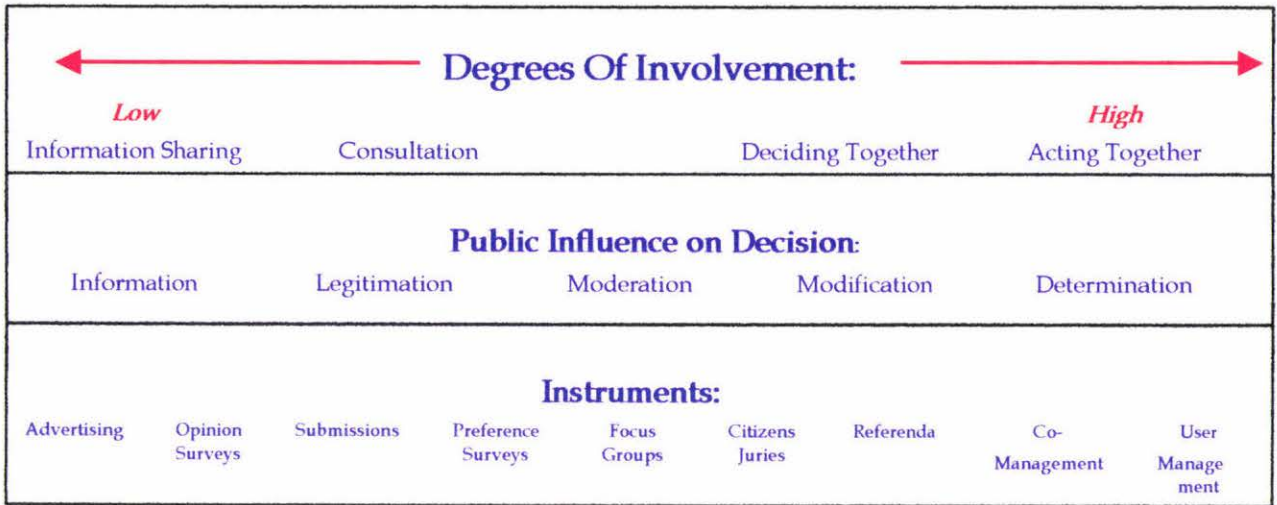


Figure 4.4: Citizen involvement in public decision-making

Source: Fongie, Chayne and McDermott, 1999: Guidelines for Involving Citizens in Local Authority Decision-Making, page 3.

4.5.1 Conflict Resolution Between Stakeholders

Park staff in protected areas are likely to find themselves occupying a variety of roles in conflicts that affect their site: they may be mediators, negotiators, conveners, experts, advocates, or decision makers (Lewis, 1996). In almost all of case studies, conflicts relate to:

1. Lack of attention to the process of involving local people and others who care about the area, in the planning, management and decision-making for the area, and
2. People in the nearby communities having needs that conflict with the objectives of the protected area.

Conflict can represent the productive interaction of competing interests and values, an ever-present function in a dynamic society. Conflicts that are

A good conflict resolution process is one in which stakeholders (those individuals or groups who are directly involved in the conflict, or who may be affected by how the conflict is resolved) have the opportunity to really understand each other's needs, develop a range of alternatives for how to address those needs, and reach a mutually agreeable solution. The emphasis is on communication. Another resolution process would be to focus on the underlying interests of the stakeholders. Usually, only by examining a variety of possible positions, can parties in conflict come up with a mutually agreeable resolution to the conflict or at least a resolution that represents a fair compromise.

Nevertheless, compromise is often the best way to serve everyone's interest in the long run, especially when the overt conflict is replaced with the stability and predictability of a mutually acceptable solution.

Stakeholder involvement can occur along a spectrum from minimal to very intensive involvement. At the minimal end of the spectrum, stakeholders have opportunities to provide some input to decision-makers about what they think about the protected area, what they want from it, what their concerns are, and how the conflict should be resolved.

At the intensive end of the spectrum, stakeholders are actually involved in negotiation with the decision-makers to develop alternative solutions and to try to agree on a resolution to the conflict. Approaches for intensive stakeholders involvement include: consensus-building forums, advisory groups, task forces, and management committees.

In many situations, especially when large numbers of stakeholders are involved, it may be necessary to utilize several different approaches to involve stakeholders (Lewis, 1996). The following suggestions have been made:

- 1.** When a large number of stakeholders exist, do as thorough a job as possible during the assessment phase identifying the type of groups who have a stake in the conflict and who they might respect as a spokesperson/representative. The people who are most important to involve are those who have the ability to thwart a proposed solution to the conflict. Also do not forget to identify and try to reach out to those affected groups that may lack power and have been excluded in the past.
- 2.** Design a conflict resolution process that gives as many stakeholders as possible a chance to express their concerns and needs even if they are not able to negotiate a solution to the conflict.
- 3.** Consider working with representatives of the various stakeholders.
- 4.** Establish process ground rules that are likely to create trust among the stakeholders. Be mindful of the impacts of public and private statements on the overall carrying out of the process.
- 5.** Start with small issues that are easily settled.
- 6.** Do not assume that the involvement approaches that work for articulate groups will work for less powerful groups. Consider setting up different mechanisms for reaching people.
- 7.** Provide resources to help less powerful groups participate more effectively.
- 8.** Try to open lines of communication and build positive relationships with the relevant government entities.
- 9.** Be sure to develop an understanding of the institutional context of the conflict, including an understanding of possible avenues for formalizing a settlement agreement.
- 10.** The best strategy to deal with a potential problem is to keep the constituencies as informed as possible throughout the process.

4.5.2 Establishing Partnerships

Partnerships are applicable to many management functions. They can be useful in policy development, data collection, research, analysis, planning, program development, administration, service delivery, evaluation, monitoring, and enforcement. Partnerships can also take many different forms and are more often categorized by the degree of involvement and participation.

Contributory partnership involves the sponsorship or support of a public or private organization. This is normally in the form of funding for some activities which the organization will have little or no direct operational participation. This is a weak type of partnership since not all partners are actively involved in decision-making (Mitchell, 1997).

Operational partnership makes partners share roles in the actual undertaking to achieve a set goal. The partner who provides the financial resources normally holds the power although collaboration is high (Mitchell, 1997).

Consultative partnership involves seeking advice by forming committees or councils from individuals, groups, and other organizations outside of the resource management agency. The public agency retains the power and has the discretion to decide how and to what extent it shall respond to the advice solicited (Mitchell, 1997).

Collaborative partnership seeks to achieve mutually compatible objectives with the various groups. This is the only form of partnership in which each partner shares power and decisions are reached through consensus. Here, the public agency turns over some of its power to groups or organizations but

does not take away the responsibility of the public agency to be accountable (Mitchell, 1997).

There is no best model for partnership. The kind of participation and the nature of participation is determined by the various agencies or groups involved.

4.6 Monitoring and evaluation

An important issue in enhancing the management of parks within protected areas is monitoring and evaluating the effectiveness of management plans. ANZECC (2000) states that there are vital questions that are of particular significance in the monitoring and evaluation of management plans:

- To what extent are the prescribed actions in management plans implemented?
- Is there a clear link between priority actions listed in plans and on-ground management programs?
- To what degree are management plans actually used in budget planning and determining work programs? and
- To what extent has management, under the plan, achieved the objectives of management?

Monitoring is typically used as a technique for assessing long-term trends affecting the resource, the visitor experience, or the profile of the visitor, or as a method of assessing particular issues of management concern, such as visitor impact. Monitoring, evaluation, and review involve data collection. To assist in establishing the best direction for the day-to-day functions, it is necessary to know the physical and program components of the park. These would include:

- 1.** Natural resource base – natural features (vegetation, animal life, soils, water, topography, geologic features);
- 2.** Man-made facilities – those vital for effective park operation, maintenance, and budgetary purposes as well as any major man-made features outside the park which significantly affect it (roads, parking, trails, buildings, utilities, right of way, historical landscape, recreation facilities);
- 3.** Programmes and activities - which interpret natural and cultural features and ecological relationships.

One specific activity that can assist field compliance in carrying out the management plan is to conduct an annual or frequent review of the park to determine how well the park is maintained and operated. This regular review can include complete evaluation of the effectiveness of the management plan. Any deviation from the plan is noted and the field staff must prepare a written justification. The review of the park, its surroundings and clientele, should identify discrepancies between current purposes and the resources and program capabilities to carry out these functions.

To assess the progress in achieving the objectives listed in the management plan, performance indicators can be identified. Evaluation is based on indicators that are clearly defined, easy to measure, and can provide meaningful feedback.

The IUCN World Commission on Protected Areas has established a website for its Management Effectiveness task force where documents on management effectiveness are compiled and regularly updated which park management can use as gauge to evaluate their performance.

4.6.1 Using a Management Information System

A Management Information System provides a vehicle for the storage, retrieval, and analysis of the information collected via the baseline assessments and monitoring system. A key element in this activity will be the ability to reference indicator levels against the threshold values established through carrying capacity estimation and/or agreed limits of acceptable change determined for the park. The MIS therefore provides managers with the ability to assess changes, impacts or progress, and indicate whether intervention is required to manage these items.

4.7 Physical planning and zoning

Parks are generally places where people and nature can co-exist in harmony. They are, because of this, one of the prime resources for teaching the public by example about the human/environment interrelationship. It is therefore imperative that all development and management practices within parks be carefully evaluated in relationship to the consequences of these actions for their impact to the environment. Unfortunately, after many years, there is still limited research and documentation available about the physical aspects of park planning (Fogg, 1990).

The visual environment is of major importance to most park users. Coordinating all aspects of development in the park can enhance this visual experience. All human-made elements should relate to the resource, either blending with it or enhancing it. A proper balance of forests and open spaces is one of the prime requisites in the overall planning of parks.

If an existing park is to be rebuilt or expanded, or if a new park facility is being proposed, careful consideration should be given to who is going to use the facilities. Park planners and managers should consider several alternatives to achieving the goals set for the resource use. They should question the end results and the side effects of any proposed development or alteration within a park. In particular, they must look at the requirements for operating and maintaining the park. New approaches, ideas, and concepts which might solve problems not adequately handled through existing or/or conventional techniques should be investigated, not only for development or for reducing ongoing operations and maintenance costs, but more importantly, for the effects on the environment.

Fogg (1990) also suggests classifying park spaces into zones, such as:

- 1.** Visitor services/concentrated use zone – areas which serve concentrations of people
- 2.** Support zone/administration – facilities that aid in the operation and maintenance of the park to include necessary vehicular access, nurseries, and utilities
- 3.** Historical and cultural use zone – buildings and grounds which have historic or cultural significance
- 4.** Control limitation zone – any situation that occurs where there is lack or limited control of non-park facilities e.g. public roads. A brief but clear description should be prepared on what the nature and extent of any limitations are and reference made to any supporting documents.
- 5.** Natural zone – various types of natural ecological appearing areas that exist within the park with the major emphasis being the perpetuation of the natural conditions. These areas could include:

- a)** Low density recreation like trails, hunting, bird watching;
- b)** Environmental interpretative program areas such as nature trails;
- c)** Natural feature areas that have scenic and unique features which are set aside for preservation and interpretation, and
- d)** Habitat zone with restricted entry to the public.

There are also other specific practical suggestions from the literature that are relevant to the sites being studied in this research. Firstly, nature centers (like the WRRRC) should be used where necessary for the purpose of displaying materials associated with flora, fauna, and other phases of the natural resources relative to the park environment. However, they should only be considered where adequate staff is available. Secondly, museums (one is located at QMC) should be constructed in appropriate situations and should combine the features of the park in explaining the history of the site (Fogg, 1990).

Other helpful suggestions for physical planning for parks deal with subjects like solid waste disposal, odor, play, and picnic areas.

Odors are also important in park planning. Care should be taken to minimize offensive noises and smells through proper site selection, the provision of buffers, and the zoning of park uses (Fogg, 1990).

Solid waste disposal is a continual and often overlooked problem of major proportions and should be planned for when developing a park. The best solution is to remove the refuse from the park, either by park personnel or by contract. In some instances it may be necessary to dispose of wastes on site. This should be done by whatever method is least disruptive to the park and should be located downwind of public-use areas. It is mandatory to conform to the provisions dictated by the local health department. Adequate solid waste collection facilities

should be provided and located adjacent to walks, roads, and service drives to facilitate mechanical pick-up (Fogg, 1990).

Play areas should be developed for various age levels and designed to meet the ability and interest of the intended users. Where possible, play areas for different age groups should be separated since the interests and abilities of the age groups are not compatible.

Once a visitor arrives at an attraction site, they require orientation towards its main features and facilities. This may be accomplished by having a specific orientation center separate from other areas (a small area near the entrance to the facility is very appropriate). Visitors require information about the shape, layout, and displays within the attraction as well as directions towards support facilities such as shops, restaurants, or toilets. They need to know the times of events or displays and any suggested routes (Fogg, 1990).

The typical visitor within a park always aims to get to a chosen destination as quickly as possible. The most common method utilized by the visitor to navigate his/her way around an attraction is still hand-held maps, although some people find it difficult to use them, and therefore wallboards and direction signs can supplement them.

4.8 Continuing Research

The primary objective of a research program is to conduct directed studies that provide information on which to base park planning, park development, and park management decisions (National Research Council, 1991). Current research often deals with management problems in parks and is designed to support

decision-making. It includes laboratory and field investigations, analytical studies, and data collection directly related to protecting and preserving the resources of the park and the vistas that surround them. It is also needed to find ways to enhance the use and enjoyment of the parks by visitors.

The Robbins Report (A Report by the Advisory Committee to the National Park Service on Research, 1963) stresses the need for research in park management when it states that:

“It is inconceivable that property so unique and valuable, as the national parks, used by such a large number of people, and regarded internationally as one of the finest examples of our national spirit, should not be provided adequately with competent research scientists...as elementary insurance for the preservation and best use of parks.”

The US National Research Council (1991) suggests that research in national parks is important for three broad purposes:

- 1.** To determine what resources are present in order to protect them, manage them, and detect changes in them;
- 2.** To understand the natural dynamics and processes of populations, ecosystems, and other park resources, and
- 3.** To assess the effects of specific threats and to devise and evaluate management responses.

The functions of research relative to park management as specified by the National Research Council are:

- 1.** Research and studies that include inventories, short/long term monitoring for decision-making, preservation, mitigation, rehabilitation, restoration, interpretation, and resource protection.
- 2.** Resource management, preservation, and restoration that involve resource manipulation or change, including aid in management, preservation (habitat protection and maintenance, control of non-native species, integrated pest management) and restoration (repairing eroded sites, replanting and reintroducing native species, restoring sites, landscapes and habitats) related to sustaining natural systems or restoring altered resources to a more functional or natural state.
- 3.** Interpretation that envisions all activities to be designed to explain, translate, or define research and implementation activities for management personnel and visitors to park units where knowledge gained through science is conveyed to decision-makers and the public.

Because the perpetuation of the park's natural and cultural resources is a park's highest purpose, these three related activities – science, resource management, and interpretation – require strong support, as do operational activities such as administration and maintenance.

- 4.** Resource protection from overuse, vandalism or other kinds of destruction; also includes special permitting, enforcement of

regulations and laws pertaining to fish and wildlife, federally listed threatened and endangered species, air and water quality.

- 5.** Program management is the supervision, management, planning and administration of natural resource management activities, setting goals and objectives, establishing priorities, programming and budgeting, information management and tracking, personnel actions, meetings and communications, publications and developing resource management plans.

To have an effective park management plan, Cessford (1998) says that appropriate research and information should be done on (a) optimizing/reconfiguring the use of space for comfort and facility, (b) providing general information about the features of the park, (c) identifying visitor preferences for facility and space standards, (d) assessing options for optimizing the use of space and facilities, (d) assessing the effectiveness of information-based techniques in influencing visitor use, (d) investigating differences in the expectations and evaluations of visits by different visitor groups, and (e) investigating the distinction between noticing and tolerating impacts which are being experienced as negative.

Fogg (1990) believes that the progress brought about by research is a continuum – each generation of scientists builds on the knowledge gained by the last. If we look to the past, we can find clear examples of where the lack of scientific understanding actually harmed park resources.

4.9 Summary and Conclusions

Successful management in any area will come from perceptive and flexible leaders who can respond appropriately to changing conditions and who are able to develop and implement innovations using diverse and cohesive teams. First and foremost in any strategic action is the need to act cooperatively. Despite obvious pressures, it is imperative that we avoid the trap of "island management," managing in isolation of one another and the wider community (Office of Tourism, 1996)

Working cooperatively also increases communication between agencies tackling similar challenges and non-government community-based stakeholders. These productive relationships form stepping-stones to the involvement of other groups who value the resource and the environment. Through working together, the availability of resource increases, as does the level and range of expertise with which to meet existing and future management challenges.

It is vital that we keep open, regular communication between agencies and the wider community. We need to inform individuals and groups within our communities of the nature of the challenges facing us, accommodate trends, examine visitor needs and expectations, seek wide ranging input for suitable options, select workable solutions carefully, and communicate management decisions appropriately. Only by adopting collective and cooperative approaches and through constructive communication will there be success in the attainment of objectives and the implementation of management strategies.

Other helpful insights from a review of literature on park management include:

- The more people with a broad experience who can be brought together as part of the team for park management, the better.
- Staff, visitors and interested groups need to be kept informed of progress and encouraged to make suggestions on how to improve any aspect of park
- The quality of outcomes is influenced most by a process of careful planning. This process may take longer than expected but if done thoroughly it will be a sound investment of time and other resources.
- Daily site monitoring by the agency that has management responsibility for the site is highly recommended.
- There is a need to consider the visual impact of construction materials on the site. Keep an open mind on material types as they can often be adapted and blended to meet the specific requirements of natural sites.
- Information gathered through monitoring and research can be used to design alternative activities that cater for a greater diversity of visitors.
- Professional expertise needs to be recruited to implement and monitor the high standards of park management expected by users.
- Public awareness of waste management issues and limited resources needs to be actively raised.
- There is a growing community expectation of high quality facilities and interpretation at natural attractions. This means that management agencies will need to ensure that they maintain high professional standards in implementing site developments and interpretation projects.
- There is a need to educate the public generally to the kind of experiences available at different areas. For example, the "pet mentality" of having to touch or feed fauna may not be an appropriate part of a wildlife experience if observation is its basis.

Public enjoyment of a site depends on how smoothly the site is managed. That, in turn, depends on the management's rules and procedures that should enable visitors to view the site comfortably while protecting the site and property and ensuring the safety of staff and visitors. The approach of benchmarking or using "good practice" in park management recognizes that there are different settings, therefore change is inevitable and encourages a culture of continuing improvement. In addition, literature has provided a wide range of management options for park managers to use and implement that are suitable to a site's needs.

An integrated approach where all aspects of conservation and use are considered during the planning process is highly recommended. In this approach, the community is generally involved from an early stage and the final management plan is thoroughly studied before seeking the approval of higher authorities.

ANZECC (2000) identified several aspects of management planning that need improvement/development, such as:

- 1.** Effective involvement of local communities;
- 2.** Integration of the management plan with policy and strategic planning, budgeting and development planning processes;
- 3.** Monitoring, evaluating and reporting on the implementation of plans and the effectiveness of plans in meeting management objectives for sites within protected areas, and
- 4.** The use of the Internet to facilitate public consultation and for the release of draft and final management plans.

ANZECC further states priority should be given to the exchange of communication and information within and between park management agencies. All of the above points should be considered by park management to effectively carry out their functions and reach the objectives set in the management plan.

The first lesson to keep in mind, Lovett (1998) says, is that parks have value for the community. More important than satisfying preferences of individual stakeholders, the park should serve a common good – the general interest of the community itself. Lovett further adds that the next lesson in park management is to keep a broad perspective. Keep in mind the actual significance of parks for the community before pressing for park interests. He says the approach should be:

“The parks are valuable to the community in certain definable ways, therefore I shall advance the community’s interest by protecting the parks.”

Chapter 5. Visitor Management in Parks within Protected Areas

Visitor management in natural areas is a delicate balancing act that requires knowledge, sensitivity, and cooperation between resource managers, the public, and different sectors of society especially the tourism industry. Rapid cultural, technological, and economic changes mean that no longer will conditions be predictable and steady. Instead, we are managing in a turbulent environment that requires constant adjustments in direction, approach, and structure in order to reach management goals. With a highly mobile and motivated public, and some very sensitive environments, it is also one that presents seemingly competing interests. Comprehensive planning and on-going monitoring underpin much of the success in visitor management (Office of Tourism, 1996).

Over time, management in protected areas gradually shifted in the direction of visitor management because of the increasing popularity of these areas as tourism destinations. Today, visitor impact is creating problems unforeseen in the past. While many developing protected areas are still in need of building a constituency of visitors who know and care about the place, some protected areas are experiencing overuse, habitat degradation, and conflicts with local people over the use of scarce natural resources.

The gravity of these problems have prompted the need to stress the importance of providing protected areas with appropriate management tools which can be used effectively to address the range of issues associated with the environment, visitors, and the resource. There are four (4) major visitor planning and management frameworks cited prominently among literature and they will be discussed individually in the next sections of this chapter.

5.1 Recreation Opportunity Spectrum (ROS)

The Recreation Opportunity Spectrum (ROS) was developed by the U.S. Forest Service to support efforts to meet the agency's mandate for outdoor recreation management and integrated resource management. Although ROS was developed by this agency that has an integrated resource management perspective, the framework has also been used by organizations that do not include resource extraction of any kind.

ROS is a conceptual framework for encouraging diversity in outdoor recreation opportunities (Manning, 1986) that explicitly recognizes that experiences derived from recreation are related to the settings in which they occur. These settings are a function of environmental, social, and managerial factors as well.

In its most common form, the ROS framework distinguishes among six recreation opportunity classes: urban, rural, roaded natural, semi-primitive motorized, semi-primitive non-motorized, and primitive. These opportunity classes, covering the spectrum from developed to underdeveloped settings, vary systematically according to the logic of the ROS framework. Thus, an urban opportunity setting features man-made recreation facilities, easy access by several modes of transportation, high numbers and densities of users, and an obvious and significant management presence (Dearden and Rollins, 1993).

The basic assumption underlying ROS is that the quality in outdoor recreation is best assured through the provision of a diverse set of opportunities. When considering opportunities for outdoor recreation, people are confronted with several choices and they choose which activities they want to engage in, which setting seems appropriate to carry out these activities, and the kind of recreation experience they wish to obtain.

ROS emphasizes maximizing use while limiting further impacts on areas already impacted, maximizing the nature experience, and minimizing the impacts on the resource. The ROS framework focuses on settings within which recreation activities may occur. These are opportunity settings, allowing the nature and sensitivity of each park or protected area, its use, and management direction to interact in a way that is unique to that area. Management efforts are geared towards achieving the experiences that each setting will support, and ultimately contributing to the social and economic benefits that will be generated. Rather than merely focusing on recreation activities or the natural environment within which human activities take place, ROS is based on the idea that people participate in recreational activities in specific settings to achieve desired experiences and benefits. By changing the setting, for example, by closing the only road in the area, we may alter user densities and promote a series of experiences more natural than social (Dearden and Rollins, 1993).

Modification to human access, user interaction, and management are the heart of ROS. These factors should be manipulated and varied which then determine the nature of the setting where recreation activities occur. By manipulating these factors, i.e. by providing road access to an area previously without road, settings may be managed to produce the desired results.

5.2 Limits of Acceptable Change (LAC)

The U.S. Forest Service developed the Limits of Acceptable Change (LAC) framework with a group of researchers for use in planning and managing designated and undesignated wilderness areas under the agency's jurisdiction. Like ROS, LAC is concerned with identifying opportunities for recreational activities. Recent applications of LAC have developed management objectives, indicators, and standards to define limits of change for a wide range of possible

resource uses. **Figure 5.1** illustrates the steps LAC planning system while **Figure 5.2** defines the contents of the LAC system in the planning process.

The LAC framework consists of four basic components (Dearden and Rollins, 1993):

1. Identifying acceptable and achievable social and resource standards;
2. Documenting gaps between desired and existing circumstances;
3. Identifying management actions to close those gaps, and
4. Monitoring and evaluating management effectiveness.

By providing a clear process for determining what resources or social conditions are acceptable, LAC prescribes a set of management actions to achieve those conditions. The focus of LAC is shifted from the number of users involved to the degree of change that is acceptable in each specific area.

The determination of the impact, the assessment of the acceptability of the impact, the management of the impact, and the monitoring of the impact must be done with LAC. The amount of the environmental and social impacts allowed is a management decision which involves the legal and policy environment of the protected area, the existing use levels, the desire of visitors, and the larger political environment.

5.2.1 Carrying Capacity as a LAC Method of Assessment

Sharpe (1994) defined a park's carrying capacity as "that character of use that can be supported over a specified time by an area developed at a certain level without causing excessive damage to either the environment or the experience of the visitor." It has two components – a quality environment and a quality recreation experience. All relevant recent literature suggest that carrying

capacity is not an absolute value waiting to be discovered, but rather, it is a range of values which must be related to specific management objectives for a given area (Graefe, Kuss and Vaske, 1990).

The interaction between resources and visitors is critical to the management system and can be expressed in the concept of carrying capacity. The ability of a site to absorb visitor pressures is a critical element of the site's survival. Archer and Cooper (1994) suggest that "any consideration of impact must recognize the pivotal role which carrying capacity plays by intervening in the relationship between visitor and resource."

Most researchers and site managers agree that the determination of carrying capacity involves two things:

- A description of the relationships between specific conditions of use, (e.g. types of use, site factors, amount of use) and the impacts associated with these conditions, and
- An evaluative dimension which incorporates value judgments about the acceptability of various impacts.

The descriptive component of carrying capacity is concerned with the observable characteristics of a recreation system. Anything that managers can manipulate becomes a management parameter (e.g. number of visitors in a given area, the type of use and length of stay). This component identifies how the system works but does not determine the carrying capacity of the area.

The evaluative parameters describe what happens to visitors or the environment as a result of visitor use patterns and other management parameters (e.g. percent loss of ground vegetation, changes in wildlife density, frequency of encounters with others on trails/campsites). This evaluative

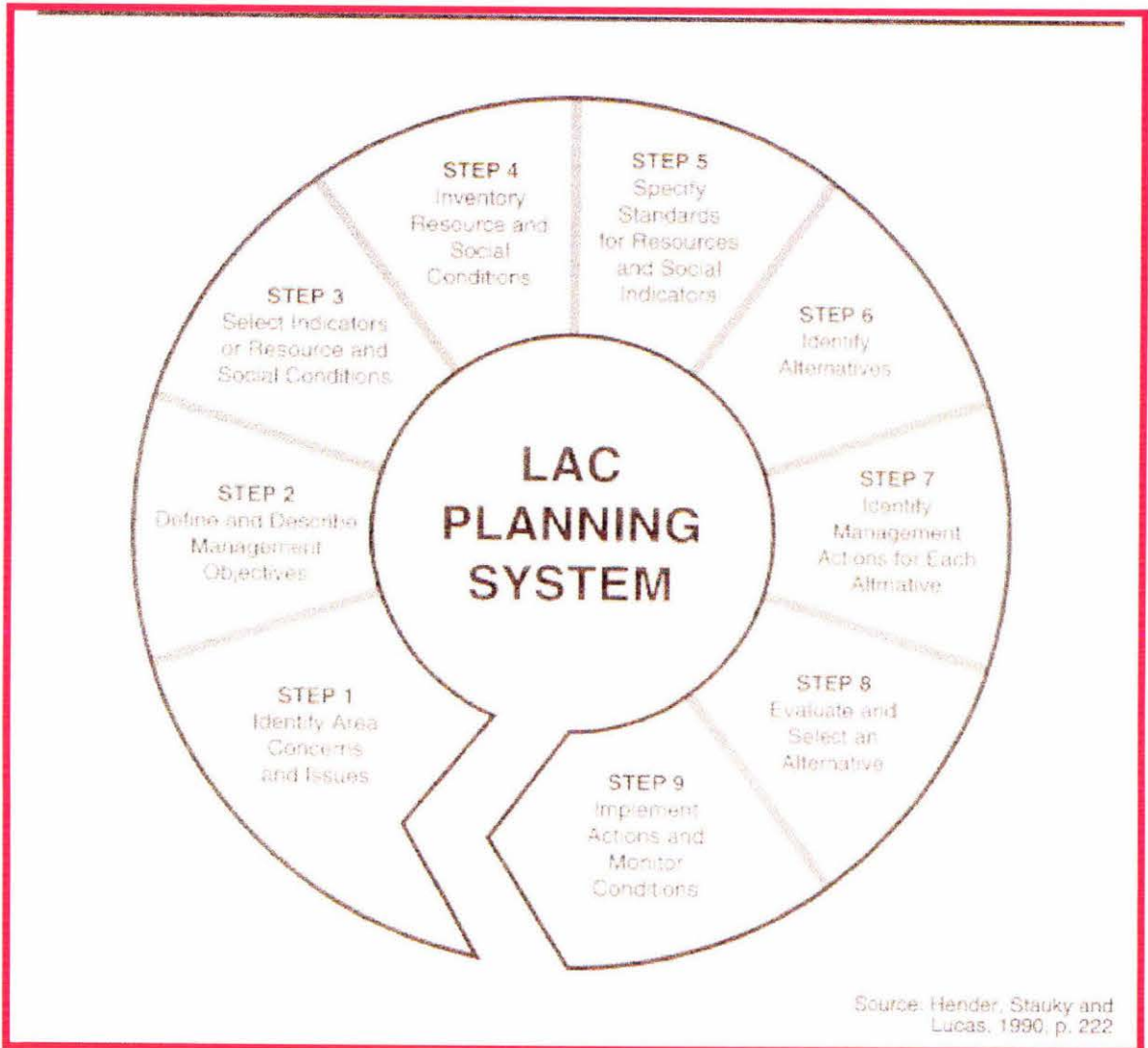


Figure 5. 1. The Limits of Acceptable Change planning system.

Source : Dearden and Rollins (1993), page 191, as lifted from Hender, Stauky and Lucas (1990).



Figure 5.2. The Limits of Acceptable Change planning process

Source : Glasston, Godfrey and Goodey, 1995. Towards Visitor Impact Management. page 58.

component considers the different objective conditions produced by management parameters in an effort to determine their relative merits. For successful implementation, it is important that this evaluation results in a set of standards specifying the type of experience to be provided in terms of appropriate impact parameters as well as the degree of environmental modification acceptable to management.

There is a diverse range of variables that are likely to limit the ability of a site to absorb infinite numbers of visitors. The relative importance of each of these elements will depend on a range of factors such as the nature of the site, the characteristics of visitors, and the stage in the site life cycle. The management problem is in determining what the critical indicators to adopt are and the threshold levels (Shackley, 1999).

The carrying capacity approach implies that there is a particular maximum number of visitors at any given time, but it is often seen as inappropriate in the context of particular sites. The management issue is closely related to carrying capacity since a site can be managed to take any number of visitors. An alternative could be simply "hardening"* (Hall and MacArthur, 1993) the environment and managing the visitor. Large volumes can then be accommodated without an unacceptable decline in the environment or the experience. The capacity of a site can then be increased by (a) staff training, (b) improvement/expansion of infrastructure, (c) design and layout changes, and (d) the physical protection of the site.

Carrying capacity is a relative concept involving both scientific and judgmental considerations. Capacities can be determined when:

* Hardening usually involves the surfacing of access routes (like walking tracks) and related facilities (like picnic areas) and increasing the number and range of facilities. This option may allow the immediate environment to become suitable but it comes at a cost.

1. Management objectives specify the ecological and social conditions desired in a given area, and
2. Research demonstrates the use configurations what will allow conditions to meet the standards selected.

Unfortunately, despite the large volume of existing literature, little attention has been focused on meeting either of these conditions necessary for carrying capacity determination (Graefe, Kuss and Vaske, 1990).

5.3 Visitor Impact Management (VIM)

This is another planning framework that incorporates resource and visitor management within a process aimed at reducing or controlling the impacts that threaten the quality of outdoor recreation areas and opportunities. The basic assumption underlying this framework is that it is necessary to gain understanding of who comes to the park, why they come, what they do when they are inside the park, and what their needs are.

The Visitor Impact Management (VIM) was developed in collaboration among the National Parks Conservation Association, an American non-governmental parks organization, and academic researchers led primarily by Alan Graefe (Dearden and Rollins, 1993). It arose from the review of literature on recreational carrying capacity with a view toward providing managers of parks and protected areas with the tools necessary to manage visitor impacts. It also considered environmental issues and visitors' experiences in national parks.

The purpose of VIM is to identify unacceptable changes occurring as a result of visitor use and to develop management strategies to keep visitor impacts within acceptable levels (Graefe, Kuss and Vaske, 1990). A critical step

in VIM is the determination of management objectives that will identify the resource conditions to be achieved and the type of recreation experience to be provided.

The VIM process consists of eight (8) steps, involving a combination of legislation/policy review, scientific problem identification (both social and natural), and analysis and professional judgment. The VIM framework is quite similar to LAC; however, there are differences with regards to their origins, their operating requirements, and the scales at which they operate (**Figure 5.3**).

The first two steps in the VIM framework include a review of legislative, policy and database situations for the sites under study and a review and identification of specific management objectives for visitor and resource management. There is involvement of legislation, policy, or both at an early stage in the process. The process considers the effects on both visitors and natural systems.

The next steps bring social and natural scientific knowledge into consideration in the selection of important indicators and the comparison of standards and current conditions to check if there are discrepancies between standards and actual conditions on a site. The succeeding two steps seek to identify the causes of the problems and to develop appropriate and effective management responses or solutions. Finally, the preferred solution is implemented with monitoring to ensure that the gap between actual conditions and defined standards are within the range for the site(s) in question.

Although carrying capacity remains at the center of the VIM framework, it is precisely defined in relation both to the problem and to the relevant ecological or social standards. VIM requires social and natural scientific research in order to

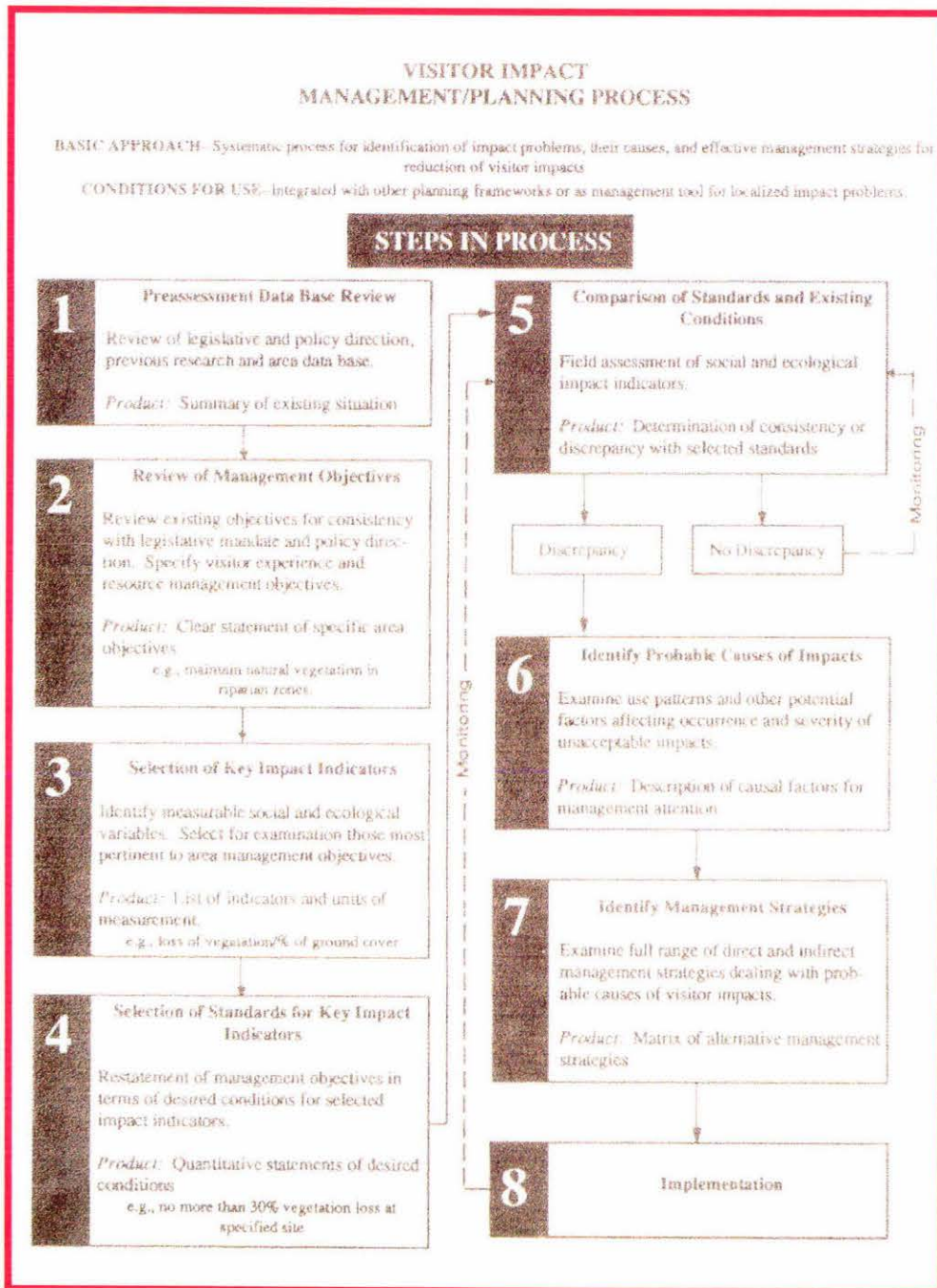


Figure 5.3 The Visitor Impact Management planning process

Source : Graefe, Kuss and Vaske (1990), page 332.

establish relationships between people and impacts, between uses and impacts, and between impacts and site conditions.

The VIM framework offers a problem-solving approach to visitor management by reacting to undesirable changes in the natural or social environments caused by inappropriate or excessive visitor use. The VIM approach establishes what are considered to be unacceptable visitor impacts, determines the likely cause of these impacts, and triggers into motion a series of actions to address the problems. Like LAC, it does not seek to achieve some numeric value but rather identifies a set of standards that can be used to compare with existing conditions within the site.

VIM is an approach that moves beyond the limits identified in ecological and social studies of carrying capacity and tries to apply it to human impacts and interactions. VIM recognizes that simply establishing limits will not do much to reduce the impacts they were intended to resolve. First, we need to better understand the nature of impacts and the factors related to their occurrence, and only then can we apply this to management strategies to reduce these impacts (Glasson, Godfrey and Goodey, 1995).

The following are Visitor Impact Management Principles as discussed by Kuss, Graefe and Vaske (1990, pages 5-8):

- 1.** The purpose of visitor impact management is to identify unacceptable changes occurring as a result of visitor use and to develop impact management strategies to keep visitor impacts within acceptable levels.
 - Since any use will cause some change, there is no absolute limits or capacities applicable to visitor impact management.

- Visitor impact management is largely a judgmental matter of balancing diverse values related to preservation and use.
- 2.** Visitor impact management can be integrated into existing agency planning, design, and management processes.
- At a site-specific level, VIM can be used as a management tool to aid in the identification of unacceptable impacts, their probable causes, and alternative management strategies.
 - At a broader level, VIM can be integrated with area planning and resource allocation systems to achieve acceptable impact levels in a large geographic area.
- 3.** Visitor impact problems are complex and may be difficult to identify; hence VIM should proceed on the basis of the best scientific understanding and situational information available.
- There are no absolute data requirements for the implementation of visitor impact management.
 - Four levels of information useful for visitor impact management decisions can be identified:
 - a)** Generalized understanding derived from the literature on recreation impacts and their sources;
 - b)** On-site observation or anecdotal evidence;
 - c)** Existing inventories or studies conducted within the area;
 - d)** Collection of new data through research or monitoring.

- 4.** A critical step in visitor impact management is the determination of management objectives that identify the resource conditions to be achieved and the type of recreation experience to be provided.
 - Effective management objectives should identify observable and measurable indicators of desired ecological and social conditions for a given area.
 - Effective management objectives should provide a basis for establishing standards that specify acceptable levels for all relevant types of impacts.

- 5.** Visitor impact problems can be identified by comparing standards for acceptable conditions with key indicators of impact at designated time and locations.
 - Identification of unacceptable impacts should include consideration of the full range of potential types of impact recognized in the existing literature.
 - Existing data can be used to provide a preliminary identification of impact problems in a given setting. Intensive monitoring and additional research should be concentrated on areas at or approaching critical levels of impact based on preliminary assessment.

- 6.** Management decisions intended to reduce impacts or maintain acceptable conditions require knowledge of the probable sources of and interrelationships between unacceptable impacts.
 - Visitor impacts, by definition, are changes resulting from recreational use; however, observed changes may result from any number of

potential characteristics of use, or may be unrelated to visitor use patterns.

- The key role of research in visitor impact management is to identify, as clearly as possible, the relationships between key impact indicators and various aspects of visitor use patterns.
 - Capacity for use may vary from area to area and site to site and may be fixed by design.
 - Factors that determine an area's durability and compatibility for self-repair are vitally important for determining how the area should be best managed.
- 7.** Unacceptable visitor impacts may be addressed using a wide range of alternative management techniques.
- Capacities and use limits represent one potential management strategy but not necessarily the best or most effective alternative.
 - Selection of management techniques should be based on a balance between a number of criteria, including: consistency with management objectives, difficulty and cost of implementation, probability of achieving the desired outcome, effects on visitor freedom, and effects on other impact indicators.
 - Management techniques aimed at reducing a particular impact problem may cause other problems or adversely affect other types of impacts.
 - Where alternative techniques seem to be equally promising, indirect approaches in which the individual maintains some freedom of choice are preferable to direct regulation of visitor behavior.
- 8.** When used in an area-wide planning context, visitor impact management objectives should incorporate a range of acceptable

impact levels to accommodate the diversity of environments and experience opportunities present within any natural setting.

- Every area is an element within a larger system of areas; management of a given area should be viewed in relation to the management of adjacent areas or zones.
- To prevent all opportunities from being reduced to the lowest common denominator and to prevent rare and unique opportunities from being converted to conditions that are already abundant, creation of an integrated and highly visible system of areas and zones offering specific types of opportunities is desirable.
- Provision of a broad range of available opportunities is necessary to make limitations imposed on certain activities in certain areas acceptable to the public.
- The management of areas within a system should be governed by a concept of non-degradation that calls for the maintenance of present conditions if they equal or exceed minimum standards and the restoration of below standard areas. That is, minimum standards may specify a limit of acceptable change but do not imply that each area should be allowed to deteriorate to this level.

5.4 Visitor Activity Management Process (VAMP)

The Visitor Activity Management Process (VAMP) was a framework developed by the Canadian Park Service (CPS) and a group of academic researchers. The VAMP framework is meant to act in consonance with natural resource management. Together, the two feed information into two decision-making structures. One structure is system planning, in which candidate national parks are evaluated. The other is park management planning, in which

management plans are developed to implement national park policy in established national parks.

The VAMP framework (**Figure 5.4**) revolves around visitor activity profiles. In the VAMP framework, an activity or sub-activity is assessed in the visitor activity profile in terms of its relationship to the four policy objectives of national parks: (a) protection, (b) understanding, (c) appreciation and (d) enjoyment. The second significant aspect to be noted about the visitor activity profile is related to the services the site brings to the visitors. Activities depend on services, or on all of the points from (a) to (d). The extent to which park managers can meet demands for visitor services is an issue in most parks. Other agencies, public or private, may be able to provide the required services while facilities, programs, and services require budget and operating funds.

The distinguishing characteristics of VAMP are its emphasis on the central role of synthesis and the constant need for close integration of input and feedback at every stage of planning. This means setting up a system that is receptive to such input and escaping the “now we’ve had our participation process, we can get on with the job” syndrome (Hall and MacArthur, 1993).

VAMP is formulated to ensure that the recreational use of heritage[▲] sites is included in the planning process. It is particularly useful in evaluating the interpretation needs and ensuring that all aspects are considered.

[▲] Heritage represents the things we want to keep. It is a network of interrelated elements – tangible and intangible, natural and cultural (human), personal and collective (NZ Ministry of Citizenship and Culture).

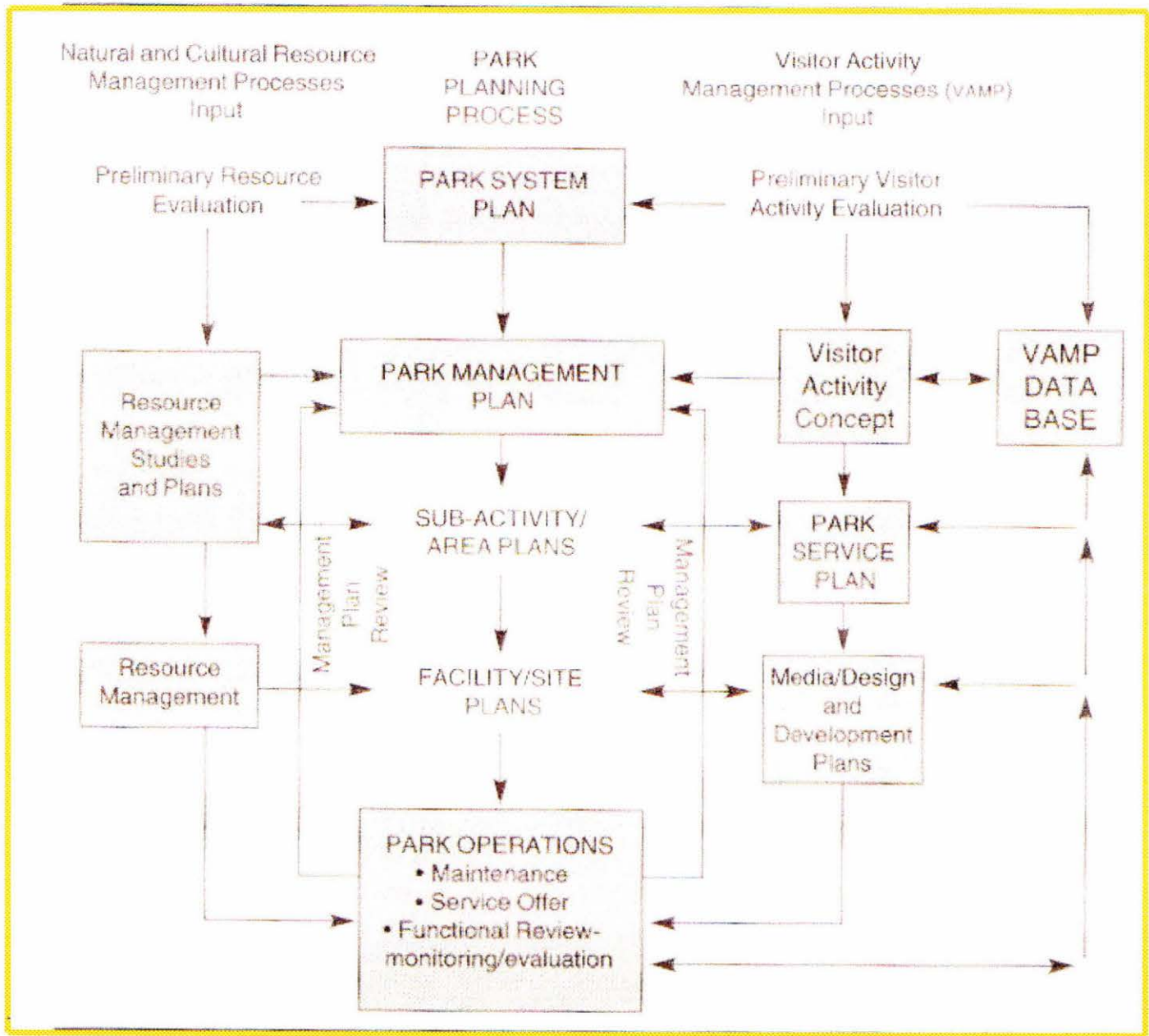


Figure 5.4 The Visitor Activity Management Process planning framework

Source : Dearden and Rollins (1993) as lifted from the Canadian park Service (1986).

5.4.1 Interpretation as a Main Component of VAMP

Interpretation is an activity that aims to reveal meanings and relationships as an art and revelations based upon information whose aim is not instruction but provocation (Shackley, 1999).

Interpretation was developed by Tilden (1975) to enhance visitor experiences on recreational visits and in doing so recognized that greater awareness and understanding of recreational resource would lead to a greater desire to care for and preserve the resource. Tilden (1977) further states that interpretation should connect its topic to "something within the personality or experience of visitors".

The idea of using interpretation as a management tool is not new. McMichael (1972) argued that the "most important method of managing Australian national park resources is to implement a well-designed interpretation programme, which seeks to inform the visitor of the values of the park and of nature conservation, not by direct teaching but by experience."

While conventional management practice has focused on the resource, Hall and McArthur (1993) emphasizes the use of interpretation and education as a more appropriate long-term technique to manage sites and visitor experience. According to the Office of Tourism (1996), the most effective interpretation is that which is interactive and fun and may be the most desirable way to provide information to park visitors. **Figure 5.5** enumerates the key steps in interpretative planning for visitor management.

Interpretations are used to achieve a number of objectives (Hall and MacArthur, 1993,page 27):

- To enrich the visitor experience;
- To assist the visitor to develop a keener awareness, appreciation, and understanding of the area, and
- To accomplish management goals through encouragement of thoughtful use of the resource by:
 - 1.** Reducing the need for regulation and enforcement;
 - 2.** Enabling careful distribution of visitor pressure so that environmental impacts on fragile natural resources are minimized, and
 - 3.** Promoting public understanding of the agency and its programmes.

Fogg enumerates Additional specific objectives of interpretation (1992, page 25) as follows:

- 1.** To help the visitor enjoy the park through better understanding and appreciation of its purposes and resources;
- 2.** To promote intelligent use of park resources and facilities through educational programs and activities;
- 3.** To help the visitor develop a sense of responsibility concerning the conservation and use of the natural resources;
- 4.** To instill in the visitor a sense of appreciation for the natural and man-made resources of the park in order to reduce willful destruction and vandalism of park property;
- 5.** To help the visitor increase his knowledge and understanding of his role in the natural environment;
- 6.** To help the visitor understand, enjoy, appreciate, and develop respect for his environment;
- 7.** To develop a knowledge and understanding of ecology, and
- 8.** To help the visitor develop an interest in past history.

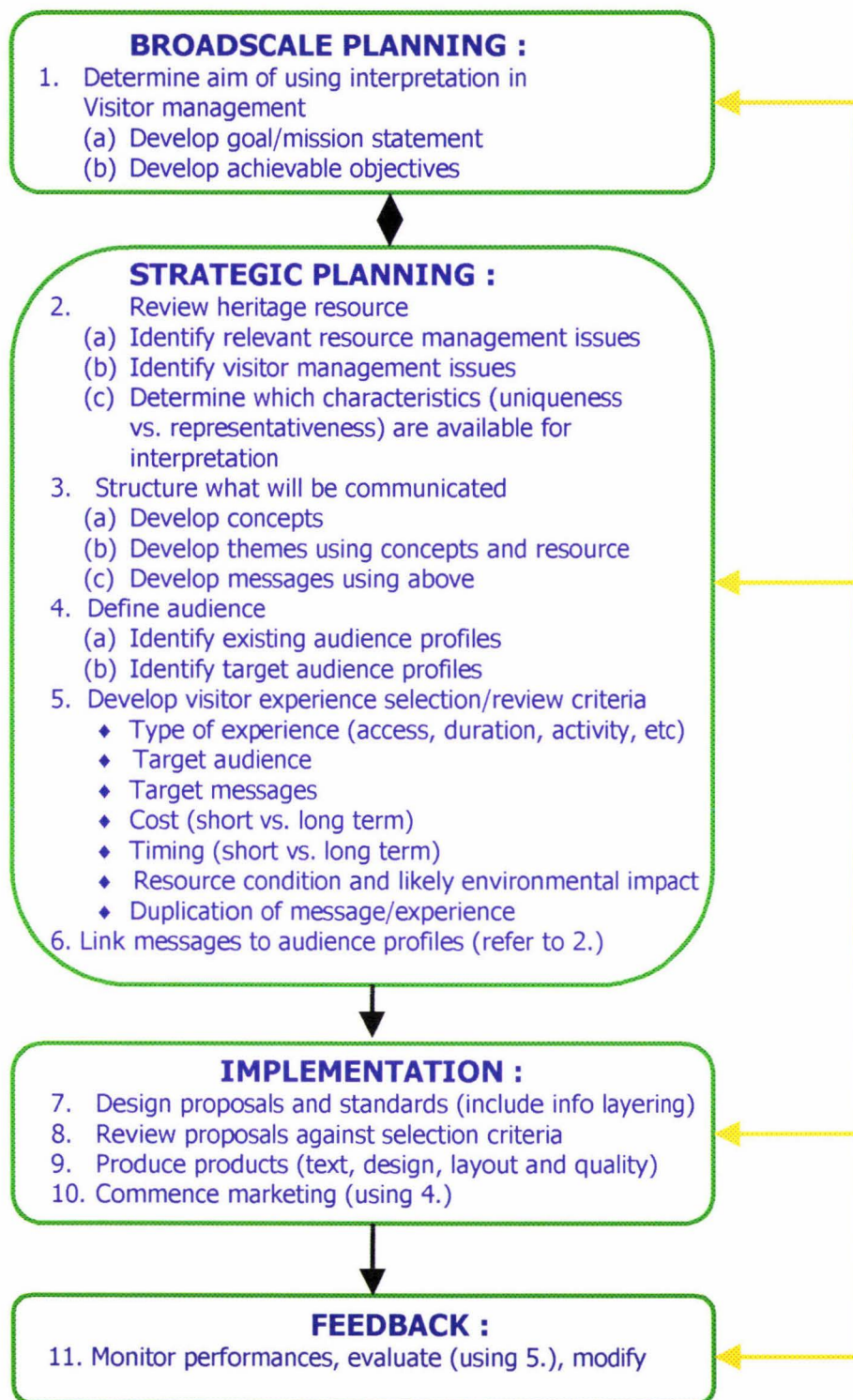


Figure 5. 5 : Key steps in interpretative planning for visitor management

Source : Hall and MacArthur, 1993, p. 32.

5.5 Comparison of the Four Visitor Management Frameworks

ROS is very rational and espouses the idea to look at diverse recreational activities within natural settings in a multi-dimensional perspective. It encourages the creation of a wider variety of recreation opportunities based on alternative combinations of environmental, social and managerial conditions although in the fundamental sense, it is still the visitors who create their own experiences and opportunities.

LAC is an open decision structure that allows for input from all interested entities. It avoids the outright establishment of use limits or the type or scale of development that might take place. Rather, LAC seeks to understand the changes that are acceptable within the environment by the use of land-use zones where a set of desired conditions are maintained. This approach recognizes that the evaluation of impacts is a matter of managerial judgment which is based upon several factors to include: (1) an informed assessment of social, economic and environmental values, (2) resource sustainability, and (3) user/visitor reaction. The LAC framework represents an attempt to go beyond recreational carrying capacity by developing realistic standards based on people's use, understanding, and valuation of natural areas.

VIM is an approach whose process is similar to LAC. It emphasizes the need to better understand the nature of impacts and the factors related to their occurrence. Only by doing this can management strategies be applied to reduce impacts. A continual monitoring process is devised to check the effectiveness of management actions and enable them to respond to the changing conditions of use and impact. VIM is a process of adaptation that describes desirable conditions and evaluates current activity as a basis for setting management objectives. Management performance is gauged by the standards set by experts.

The issues VAMP tries to address are the extent to which park managers can meet the demands for visitor services and how involved should they be in doing so. Because of this, VAMP limits the role of the public and other stakeholders in planning its services. However, VAMP means to operate parallel to the resource management process in natural parks and requires a management plan.

In **Table 5.1**, the author shows an analytical comparison of the four visitor management frameworks.

5.6 Summary and Conclusions

The management of visitors may be viewed as an integral part of the operational network of service task, service standards, and service delivery system of destination sites. Visitors to these sites are buying an experience that is difficult to inventory, varying from person to person. Moreover, the sites will probably be operating with capacity constraints that may be historical, architectural, environmental, financial, or philosophical. This could mean that it is impossible to deliver service to visitors with optimal efficiency. In visitor management terms, this is generally reflected by the need to control visitor demand and relate it to the site's fixed visitor capacity.

It is therefore necessary to examine visitor management in the context of how the organization has defined its service task, what service standards are being set, and how effectively that service is being delivered to the visitor (Leask and Yeoman, 1999).

Stankey, Cole and others (1985) point out that " a major shortcoming in most management plans is the lack of objectives that allow managers to

Table 5.1: Comprison of the Four Visitor Management Frameworks

Framework	Theory	Process	External Relations	Issues
Recreation Opportunity Spectrum (ROS)	most rational a. Allows a wide-ranging consideration of options b. Avoids becoming a mere checklist c. A "best guess" tool for planning, management and research	opportunities for public involvement limited depending on management style requires formal information on technical models must accommodate non-recreational uses yields a regional, mapped identification of settings for recreation conducting actual research of recreation experience of individuals and documenting responses	allows relatively limited involvement of the public or interest group not hospitable to more informal information from broad public participation supports economic, social, and community stability on areas with few economic alternatives	very complex perceived as being data-driven lacks an appropriate environmental planning process to have more holistic view of the environment needs a landscape ecology approach to be truly an integrative planning and management framework each recreation area should be evaluated as a part of areas each contributing as best as it can to serve the diverse needs of the public
Limits of Acceptable Change (LAC)	based on transactive planning a. Extensive involvement of public and representative of interest groups b. Involves consensus rather than selecting the best alternative course of action in light of agency goals c. The amount of change allowed is defined by means of quantitative standards, appropriate management actions and procedures for monitoring and evaluation	stakeholders play important roles in decision building and monitoring sharing of power, knowledge, information and rewards in decision building uses both formal and informal information policy is of little importance as a source of direction plan based on social and ecological standards management by objective conformity to legislative/ administrative guidelines systematic feedback	depends on quite extensive public involvement people involved are generally stakeholders acceptability/agreement on standards through discussions supports economic, social, and community stability on areas with few economic alternatives	internal resistance because of power-sharing (rarely does an organization want to reduce its own power in decision making) narrow in its range of applications openness to public involvement limits its acceptance by organizations a highly technical process
Visitor Impact Management (VIM)	rational a. Bounded by organizational context and problem at hand b. Visitors/others acted upon to achieve agency goals c. Effective management involves both scientific and judgemental considerations	professional expertise as basis for setting standards for measuring management performance formal natural and social scientific information is used to solve problems emphasis on the protection and maintenance of natural or desired conditions does not produce strategies to allocate settings for recreation but produces action plans that provide site-specific solutions and means to monitor standards results measured against a level of observation to provide reasonable comparison of existing conditions and corresponding standards reviews legislative and policy direction	least concerned with public involvement operates on a site and not on a region	a very inward-looking framework seeks to regulate visitors, not manage them functions at a site level treats people as a source of problems causes underlying certain visitor impacts may never be realized not possible to exactly predict the effectivity or success of a certain management action
Visitor Activity Management Process (VAMP)	based on rational approach a. Information required for visitor activity profiles based on scientific data b. Includes informal traditional or customary knowledge	limited role for the public formal social science information blended with informal information focuses on understanding, appreciation and enjoyment direct connection to policy yields different products at different stages in management planning	does not generally involve the public except in levels of services gives strong support for assessing regional social and economic impacts provides more detailed assessments and guidance for decisions on facilities, programs and services	faces internal resistance because it represents a radical way of managing national parks have not resolved opportunity assessment does not contribute to park zoning decisions use of advisory committees during management and service planning bars cooperative style of management

References: Dearden and Rollins (eds.), 1993
 Manning (1986)
 Stankey, Cole et. al. (1985)
 Graefe, Kuss and Vaske (1990)

explicitly state the conditions they seek and to measure performance with regard to achieving these objectives."

There are five principles that summarize both social and ecological studies of recreation impacts created by visitors within destination sites and are expressed below:

- 1.** Within any disciplinary focus (whether ecological or social), there is no single predictable response to recreational use. Instead an interrelated set of impact parameters or combination of parameters could become the basis for a management strategy or capacity determination.
- 2.** The various impact parameters are related to varying levels of use intensity, although the strength and nature of the relationship varies widely for different parameters. Most impacts do not exhibit a direct linear relationship with user density. Many aspects of use intensity and a variety of situational factors influence use/impact relationships.
- 3.** One of the most important factors affecting use/impact relationships is the inherent variation in tolerance among environments and user groups. All organisms do not respond in the same way to increasing numbers of visitors. Some species or groups may benefit at the expense of others who are displaced.
- 4.** Activity specific influences represent a second major set of considerations affecting use/impact relationships. Some types of recreational activity create impacts faster or to a greater degree than other types of activity. Impacts can even vary within a given activity

according to type of transportation or equipment used and visitor characteristics such as party size and behavior.

5. The impacts of recreation are influenced by a variety of site-specific and seasonal variables. That is, given a basic tolerance level of a particular type of recreation, the outcome of increasing use levels may still depend on the time and place of the human disturbance.

Figure 5.6 and **5.7** show the impacts of recreational use. Perhaps the greatest challenge for visitor management is defining just what each experience should be, whom should it be for, and how many visitors should be catered to. Whether management decides to use hardening, controlling numbers and type of visitor, interpretation/education, or even a combination of these, the vital ingredient is to have a framework for visitor management.

In **Figure 5.8**, Hall and MacArthur (1993) show the relationship between visitor management, visitor experience, and the site condition. Hall and MacArthur (1993) then suggest a visitor management framework to adapt to changing visitor demands in **Figure 5.9**.

Perhaps too, the best and most effective way to manage visitors within parks is to determine the right combination of methods utilized by each of the four visitor management frameworks and to use them appropriately for management needs.

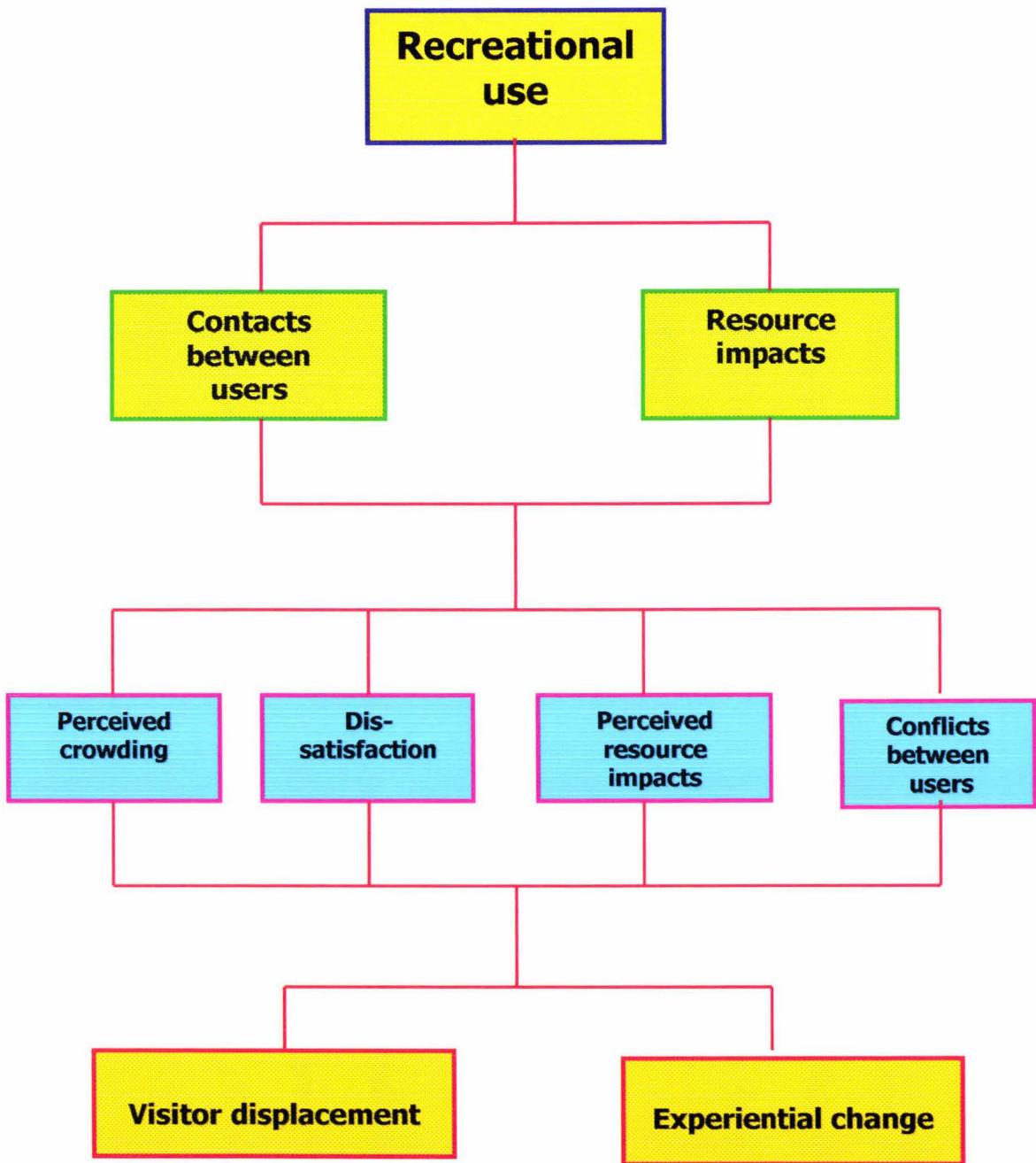


Figure 5.6. Social impacts of increasing recreational use

Source : Graefe, Kuss & Vaske, 1990 : Visitor Impact Management. The Planning Framework, page 190

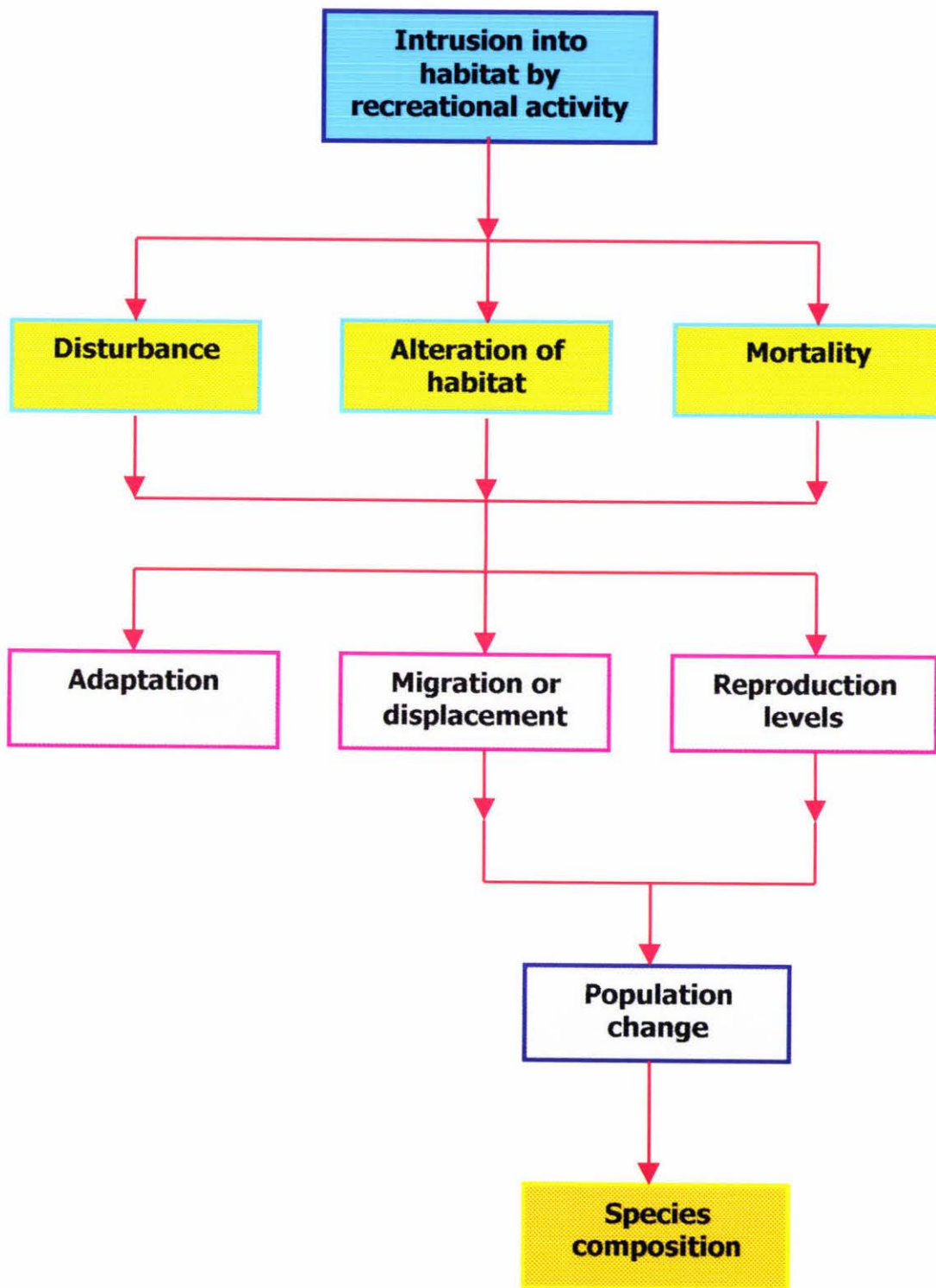




Figure 5.8 : The relationship between visitor management, visitor experience, and the condition of the resource.

Source: Hall and MacArthur, 1993, p.22

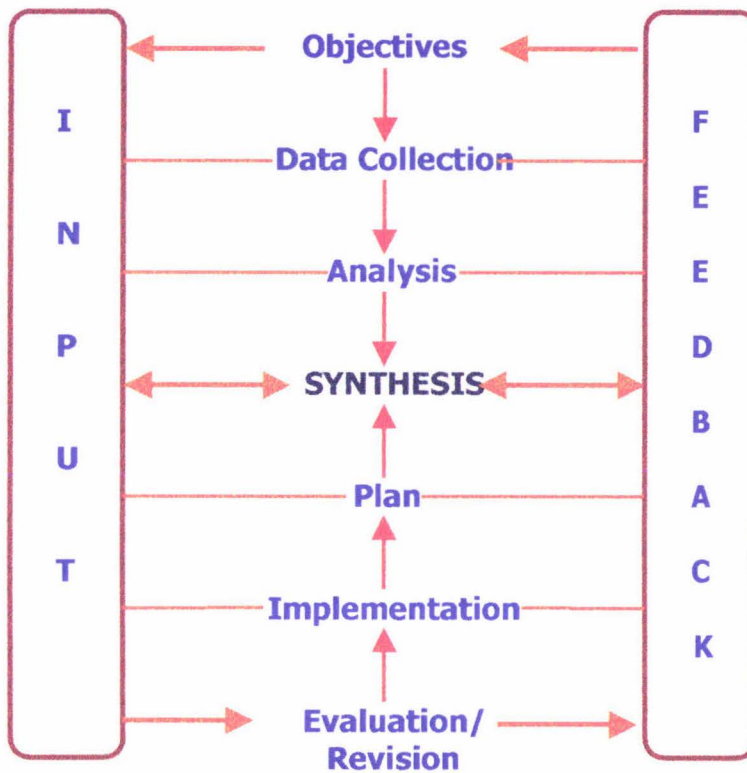


Figure 5.9: A visitor management framework to adapt to changing visitor demands

Source: Hall and MacArthur, 1993, p.36.

Chapter 6. Biodiversity Conservation and Collaborative Management in Urban Protected Areas

All protected areas contribute to biodiversity conservation by definition but modifying management schemes will further enhance their contribution towards this worldwide endeavour. According to McNeely (1996), protected area management was seen primarily as a biological challenge in the recent past. However, he says that the new approach recognizes the management of wildlife and habitats as only a small part of the whole picture and that the far more challenging management task is finding the means to ensure that humans behave in ways that are consistent with local conservation objectives (Furze, De Lacy and Birckhead, 1996).

The impact of conservation efforts have been found to be hard to demonstrate recently because conservation programmes have become much more complex in their design and implementation. Only a few decades ago, the most often used approach to conservation was park establishment and management. This approach of declaring a park by a resolution, demarcating a boundary, and keeping people out seemed easy and basic. Measuring conservation success was fairly straightforward because having no one inside the park engaged in illegal activities meant conservation success. But then, negative social consequences on the people living around the park were not taken into consideration by outside project managers (Margoluis and Salafsky, 1998).

Most conservation efforts strive to incorporate local people into the management and conservation of natural resources today. Social, economic, and political forces become the major factors that must be addressed in order to ensure the long-term security of natural areas. Finding a balance between

conservation and utilization of natural resources has become the primary challenge and the ultimate aim to be accomplished by conservation.

In this chapter, biodiversity conservation will be discussed as a major component of park management with emphasis on collaborative management, a technique cited by most literature as the most widely used to attain this end within protected areas. It is also one of the proposed management schemes for the sites under study.

6.1 Definitions

6.1.1 Biodiversity or Biological Diversity

McNeely (1992) defines **biodiversity** as "an umbrella term for the degree of nature's variety" and "encompasses all species of plants, animals, micro-organisms, and the ecosystems and ecological processes of which they are part." The natural systems and processes of biodiversity are the fabric of life on the planet and provide the environment where humans live. Human beings have a relationship with nature that depends on complex social, cultural, economic, and political processes.

Another definition of **biodiversity**, or **biological diversity**, is the variety within and among living organisms and of the ecological systems they comprise (Preece, N., Oosterzee, P. et al. 1995). The ANZECC Task Force on Biological Diversity (1993) defines biological diversity as the variety of all forms – the different plants, animals, micro-organisms, and the genes they form a part.

Biodiversity conservation is a relatively recent term that embraces and springs from the concepts of conservation of national parks and wilderness, wildlife, landscapes, and ecosystems, and is the result of a better understanding of the needs for conservation of biological diversity.

6.1.2 Stakeholders

The various institutions, social groups, and individuals who possess a direct, significant, and specific stake in the protected area will be referred to as its **stakeholders** (Grazia Borrini-Feyerabend, 2000). Stakeholders are aware of their interests in the management of the protected area although they may not be aware of all its management issues and problems. They usually possess specific capacities (special skills and knowledge) and/or comparative advantage for such protected area management. Also, stakeholders are willing to invest specific resources like time, money, or political authority in such management.

The stakeholders primarily include the agency in charge and various associations of local residents and resource users, but can also involve non-governmental organizations, local administrations, traditional authorities, research institutions, businesses, and others.

6.1.3 Partnership

A partnership refers to a group of individuals and/or organizations working together to address land use, natural resource, or environmental issues at the local level (Moote, 1995). Implicit in the term **partnership** is the concept of common good: the trust that it is possible to follow a course of action that harmonises different interests while responding, at least to some extent, to all of them. Typically, decision-making power is being shared in some way among the various stakeholders and is consensus-based (Brown, et. al., 1998).

Partnerships are built with the goal of effective conservation believing that it is beyond the reach of a sole agency or community. A party that works alone will not have the resources, such as expertise, funds, labour, and authority, which are all required to get the job done in the most effective

manner. By working together, pooling resources and knowledge, the possibilities for conservation are maximised.

What is important is that a partnership can change and be flexible to accommodate growth. Community involvement helps create ownership, and accordingly, a feeling of accomplishment in working together to solve a problem which will, in turn, encourage other individuals to participate both from the community and government agencies.

6.1.4 Collaborative Management

The term '**collaborative management**' (also referred to as co-management, participatory management, joint management, shared-management, multi-stakeholder management, or round-table agreement) of protected areas refers to a partnership by which various stakeholders agree on sharing among themselves the management functions, rights, and responsibilities for a territory or set of resources under protected status (Borrini-Feyerabend, 2000). The main aim of collaborative management is to involve all relevant parties so their interests, concerns, and capacities are fully considered.

Collaborative management is a political and cultural process that needs basic factors like (a) full access to information on relevant issues and options, (b) freedom and capacity to organize, (c) freedom to express needs and concerns, (d) the will of partners to negotiate, and (e) the respect of agreements (Borrini-Feyerabend, Farvar, Nguinguiri and Ndangang, 2000).

Specifically, in a collaborative management process (**Figure 6.1**), the agency with jurisdiction over the protected area (usually a state agency), develops a partnership with other relevant stakeholders (including local residents and resource users) that specifies and guarantees their respective functions, rights, and responsibilities with regard to the protected area.

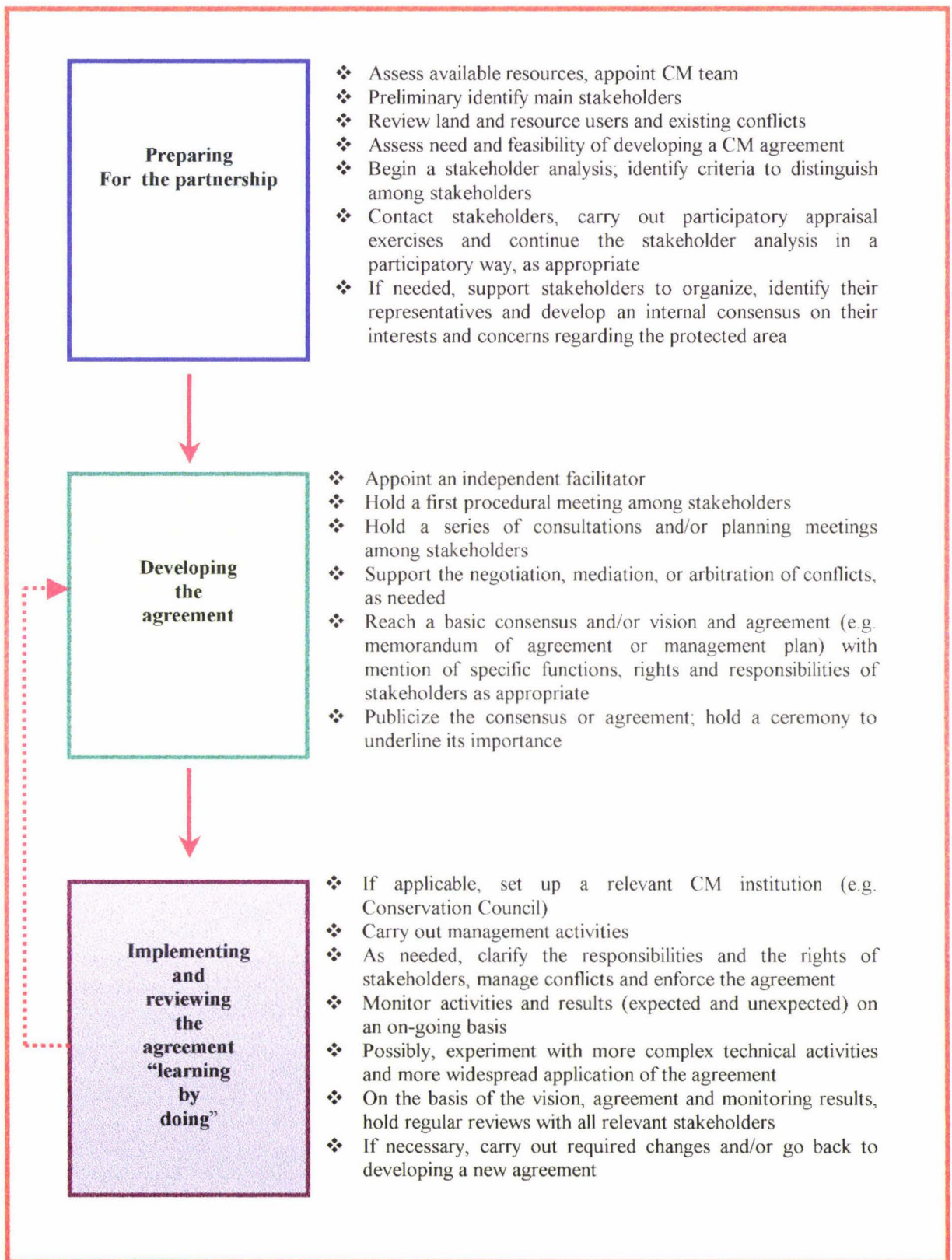


Figure 6.1 Possible phases/steps in a collaborative management process

Source: Borrini-Feyerabend, 1996: *Collaborative Management of Protected Areas: Tailoring the Approach to the Context*. Page 18.

6.2 Why Biodiversity Conservation?

Tisdell (1995) says there is an urgent need to develop rational policies for the conservation of biological diversity. This is because (a) the rate of reduction of biodiversity is extremely rapid due to the impacts of mankind (mostly through habitat destruction as a result of economic growth) (Wilson, 1988; Ehrlich, 1988), (b) the Biodiversity Convention has come into force thereby increasing the policy relevance of conservation policies, and (c) there is increased availability of international aid or funding for biodiversity conservation.

The Global Biodiversity Strategy (WRI, 1992) details seven priority areas of action for biodiversity conservation for every country:

1. The establishment of a national policy framework for biodiversity conservation (including reforming existing policies, adopting new policies and economic methods, and reducing demand for biological resources).
2. The creation of an international policy environment that supports national biodiversity conservation (including the incorporation of biodiversity conservation into international economic policy, strengthening the international legal framework for conservation, using development assistance to conserve biodiversity, increasing funding for biodiversity conservation, and spending innovatively and effectively).
3. The creation of conditions and incentives for local biodiversity conservation (including correcting the imbalances of land and resource control that cause biodiversity loss, developing new resource management partnerships between government and local communities, expanding the sustainable use of products and

services from the wild for local benefits, and ensuring that the owners of important local knowledge of resources benefit when that knowledge is used).

4. The management of biodiversity through the human environment (including creating institutional conditions that allow bioregional conservation, supporting private biodiversity conservation initiatives, and incorporating biodiversity conservation into the management of biological resources).
5. The strengthening of protected areas (nationally and internationally and enhancing their role in biodiversity conservation, and ensuring their sustainability).
6. The conservation of species, populations and genetic diversity (including strengthening the capacity for conserving these in natural habitats and for off-site conservation and education).
7. The expansion of human capacity to conserve biodiversity (including increasing the awareness and appreciation of biodiversity values, helping disseminate information needed to conserve biodiversity, promote basic and applied research on biodiversity conservation, and develop a human capacity for biodiversity conservation).

Biodiversity conservation objectives need to be explicitly established for every protected area. These objectives need to be integrated into the web of social, environmental, and economic welfare. However, the New Zealand Department of Conservation (1999) states that there are four conditions necessary for community-based conservation or resource management initiatives. There must first of all be a pressure for change, genuine need to improve, or change existing situation. Next, without a clear, shared vision by

having a general agreement on the key issues and priorities, community action will lack focus and the initial motivation will be lost. A capacity for change must be present. Lastly, actionable first steps must be taken.

6.3 Obstacles to Biodiversity Conservation

The World Resources Institute (1992) views that although many governments and non-governmental organizations throughout the world would like to expand protected areas and enhance their role in conserving biodiversity, serious obstacles must be overcome.

Firstly, WRI cites that the establishment or existence of a protected area often creates conflicts with local people because people living near or within it must generally restrict their use of its resources. In some extreme cases, they must leave their homes. Too often, society at large reaps the benefits of protected areas while the local people bear the costs.

Secondly, since the agencies administering them are vulnerable to changing policies and budget cuts, protected areas are often institutionally unstable. Once a change of administration is effected, there is no assurance that the programmes instituted will gain support, policy and/or budget-wise.

Thirdly, WRI points out that many protected areas are insufficiently or ineffectively managed. Most of them need intensive management to meet the needs or respond to the impacts of those who use the protected area or to mitigate impacts of development on surrounding lands, the pollution of air and water, and changing climatic conditions. Unfortunately, the trained personnel and ecological knowledge needed for such intensive management are in short supply.

Fourthly, most funding for protected areas comes from national budgets, which are declining in real terms in most countries. Often, protected

areas bear the brunt of budget cuts even when they are highly profitable. It is ironic that economic benefits from protected areas are rarely channelled back into protected area maintenance or community development on nearby lands.

Finally, most people take a narrow view of protected areas, so public support is comparatively weak. Protected areas are often seen only as recreational or exotic vacation spots, or remote wilderness and not as essential elements of sustainable development. Contributing to this obstacle is the lack of proper vehicles for information delivery to the community.

Within the Philippine local scene, conservation of biodiversity is plagued by several management problems and developmental conflicts of varying dimensions such as (EMB, 1996):

- 1.** The majority of the existing national parks are not large enough in area to be effective for conservation of biodiversity.
- 2.** Boundaries of the declared areas are not well defined, rendering them vulnerable to encroachment for settlement/agriculture by local communities and other settlers.
- 3.** Lack of proper management plan is a major drawback in most cases.
- 4.** The greatest threat to biodiversity comes from population growth and the increasing demands it places upon biological resources.
- 5.** Chemical pollution affects biological resources in various ways and is posing a serious threat to biodiversity, driving many animal and plant species to extinction.

- 6.** Wildlife habitats are in a general state of deterioration from encroachment and over exploitation of their resources.
- 7.** Wildlife population, both aquatic and terrestrial, are dwindling from over-exploitation for meat and other products.
- 8.** Wetlands are fast shrinking in area and deteriorating in quality due to extensive reclamation and conversion to other land uses.
- 9.** Introduction of exotic species into small island ecosystems ravages endemic flora and fauna through competition and/or predation.
- 10.** Global warming and climatic changes threaten biodiversity in various ways.
- 11.** All conservation approaches are generally hampered by poor or inadequate protection efforts resulting from insufficient expertise and resources, plus the lack of adequately trained/motivated manpower and field personnel, insufficient opportunities for advancement as well as inadequate financial support.
- 12.** Attempts at conservation have suffered administratively because of inadequate institutional arrangements.
- 13.** Conservation efforts have been affected by lack of strong legislative measures particularly effective implementation and enforcement regulations.

6.4 Collaborative Management as the Best Option

The 1992 World Congress on National Parks and Protected Areas in Caracas (McNeely, Harrison and Dingwell, 1994) reaffirmed that protected areas can actively benefit people everywhere. It was also fully recognized that modern management of protected areas demands the involvement of local residents, NGOs, and regional and local governments. Incorporating local people as legitimate partners in the management scheme of protected areas helps to convert the objective from one of protection to one of active conservation.

Collaborative management is not a new approach but is the most recommended technique to achieve biodiversity conservation within protected areas. In the ideal case, all the major stakeholders - including the agency in charge of protected areas in a country - together would review relevant background data and issues, consult with various institutions and individuals, agree on declaring a specific territory under protected status, and negotiate a share of management rights and responsibilities that reconcile the interests and capacities of all parties. The parties would then develop a permanent or semi-permanent body - in which each of them would be fairly and equitably represented - to remain in charge of implementing, monitoring, and reviewing the agreement. In such an ideal case, all the stakeholders would take the initiative to declare the protected status and develop the partnership, and would possess the will, political standing, organizational capability, and resources (e.g., time, knowledge, skills, information, means of travelling to and attending meetings) to contribute to decision-making and implementing activities (Borrini-Fereyabend, 1996).

Importantly, many collaborative management agreements depend on the good work, energy, and commitment of one or more individuals and/or on the presence of dedicated projects. It is also important to note that if the individual(s) are transferred or stop contributing, or if the project ceases to

function, the process may be blocked, derailed, and/or simply fail. Therefore, as part of the process in **Figure 6.1**, monitoring results and activities are done on an on-going basis to eliminate any breakdown in the continuity of the process.

Collaborative management stands on the concept of “common good” (Borrini-Feyerabend, 2000). It particularly assumes that protected areas can be managed in an effective way by treating relevant people with respect and equity. Because it is a process, collaborative management requires on-going review and improvement. Its most important result is not a management plan but a management partnership that is capable of effectively responding to various needs and addressing boundless problems.

The key steps in setting collaborative goals and objectives for management plans could involve some or all of the following (Brown, et. al. 1998):

- Identify the key environmental, economic, and social issues with input from all stakeholders;
- Acknowledge the wider political context and identify outside influences that affect the protected area;
- Identify common motivations, interests, and concerns among stakeholders;
- Establish where community benefits and conservation goals might overlap;
- Identify common goals and objectives to address issues and problems, while giving consideration to factors such as establishing authority and duplication of efforts;
- Document the goals and objectives in writing;
- Prioritise challenges and opportunities; and
- Jointly develop action plans and collectively delegate responsibilities for accomplishing goals and objectives.

6.5 Issues and Problems with Collaborative Management

6.5.1 Who should be in control?

An institutional arrangement that facilitates a balanced mix of the various interests and concerns of stakeholders is a very sensible solution to determine which among them should hold the reins of control in a collaborative management. When control is fully in the hands of local institutions, these may be co-opted by powerful individuals for their private interests over the interests of national and local communities. Conversely, when control is fully in the hands of public agencies, local knowledge and skills in resource management can go unrecognized. Also, if the stakeholders are not effectively organized and incapable of conveying their positions and are not willing to develop an agreement, the time and resources invested in a collaborative management process is wasted.

Working with communities in a participatory way involves giving up a large measure of control, being willing to follow, learn, and become flexible and responsive to the needs and time frames of the group.

6.5.2 To whom should benefits accrue?

Tisdell (1995) says that because conservation of biodiversity involves cooperation at a number of levels of government and the community, the cooperation of local communities is often vital for the success of biodiversity conservation programmes. It is the local communities which have the closest physical contact with conservation of biodiversity and economically, they are likely to be most affected by biodiversity conservation programmes.

Especially in some economically deprived areas, some form of material benefit received will be necessary to maintain the active support and participation of the community as a whole. There is often little incentive for local communities to conserve biodiversity and natural living resources because often government receives very little economic benefit from such conservation. Therefore, it is essential that the benefits received be perceived to be valuable by the people themselves and not merely by the conservationists. All material benefits should be clearly linked to the conservation action (Brown and Baird, 1992).

6.5.3 What are the roles of each stakeholder?

Brown and Baird (1992) list the various functions each stakeholder can perform in a collaborative management arrangement. It is important in a partnership that specific roles for every stakeholder are defined and to what extent participation will be appreciated.

Role of Government

Each local government agency can provide the policy framework that facilitates implementation, the technical assistance, and extension services to resource-managing partners with the necessary infrastructure and basic services. It can also support local users when they try to keep out poachers and illegal users and render fair due process for settling resource-user disputes.

Role of PVOs/NGOs

Private voluntary organizations (PVOs) and non-government organizations (NGOs) can act as an objective mediator between the local community and other parties to facilitate partnership relations at all key levels. They can also provide technical assistance based on their expertise,

provide services to strengthen institutional capability of partner groups, help coordinate fund-raising efforts to guarantee financial sustainability for project activities, and/or provide financing and stimulate/supply technical information flow.

Role of the Academe

Universities can provide research and data on the impacts of activities within protected areas and present alternatives to decision-making. They can be the best instruments to network with other institutions implementing similar projects.

Role of the Community/Resource Users

Resource users can be responsible for stewardship of natural resources according to the management plan reached by consensus and negotiated agreements between stakeholders. They can collaborate with all relevant partners and assume the task of monitoring and reporting of illegal activities within the protected area.

6.5.4 What other tools can be used?

Aside from all the other tools mentioned in previous chapters in this research, Brown and Baird (1992) recommends two others that can be useful in a collaborative management arrangement.

Buffer Zones

A buffer zone is an area inside or adjacent to a protected area where the harmonious relationship between the natural environment and people is promoted. The objective of buffer zone management is to optimise the

political, economic, social, cultural, ecological, and intrinsic worth of resources through active adaptive management.

According to the two authors, buffer zones require the management of differing stakeholder interests through a process of consensus building and partnership. The distribution of the responsibility of management is based on an understanding of stakeholders, their values, and their capabilities that can change over time as capabilities develop.

Underlying the buffer zone concept is the assumption that land-use restrictions must be in place to achieve conservation purposes. Buffer zones are thought to provide an added layer of protection to the protected area itself while purportedly offering valued benefits to neighbouring communities.

Information and Education

Conservation education aims to increase people's awareness of the value of natural resources, both now and in the future, along with the ecological processes that maintain these resources. It attempts to show to people what threatens the well being of their environment and how they can contribute to its improved management. It also motivates them to change their behaviour in a way that leads to improved environmental management. Conservation activities must frequently be complemented with a conservation extension or education program that informs all parties of their responsibilities as keepers of the environment they live in. Conservation educators often address school children as a target group hoping to create environmentally responsible adults.

6.5.5 Why is monitoring important?

Monitoring can be defined as the periodic collection and evaluation of data relative to stated project goals, objectives, and activities (Saterson,

1999). Monitoring is necessary in order to determine what conditions lead to the success or failure of a specific conservation approach or strategy. It helps management staff to decide which efforts should be adapted, continued, or modified to ensure that these efforts continue to achieve positive impacts. It also ensures that all participants in the management of protected areas learn from experience so that they may improve their implementation of future conservation interventions.

Implementing monitoring is essential in order for conservation efforts to succeed. A program for evaluation must be clearly defined and the plan must include milestones and criteria for measuring success. Ongoing evaluation not only ensures implementation, it also provides the feedback needed to improve the plan in response to changing circumstances and new data. Monitoring implementation depends not only on the commitment of management and citizen participation, but also on continued funds from government's participation. Just as keen public interest is necessary at the front end of a planning exercise, citizens are also needed as "watchdogs" as the management plan is implemented (Saterson, Margoluis and Salafsky, 1999).

The challenges of monitoring make it relatively costly, in time, effort, and money, and therefore easy to overlook in the short term.

6.5.6 What are the constraints?

Most field-based undertakings face enormous time and financial pressure. On any given day, the management team must juggle a host of tasks, such as developing and implementing complex program activities, maintaining working relationships with and among factions of local community stakeholders (who often have been feuding for generations), managing difficult logistical problems in communicating and getting supplies, dealing with complex staffing problems, and complying with requests from donors.

There is also always a perceived lack of qualified staff and because funding is not always enough or does not come in time, staff upgrading and information enhancement is not always possible. Because of the lack of training, it is often difficult for the project staff to determine what they need to monitor in order to assess success in management implementation. Consequently, there will be difficulty in analysing and using data. Most of the time, management never analyses or uses data because either the team collected the wrong data or the teams lack the experience and the expertise to do the analyses.

At times, there are pressure groups that can exert very strong influence on any of the stakeholders. Therefore, there is a possibility for these stakeholders to yield to pressure that can affect the focus of management.

6.5.7 What are the benefits?

It is always a difficult task to manage an area where there are too many actors involved, but it has its benefits too. First of all, effectively sharing the management responsibilities among all the parties involved in the partnership lessens the burden of the agency in charge. There is increased trust between state agencies and stakeholders that gives both parties a sense of "ownership" for the area. There is also increased effectiveness in the management of an area as a consequence of the pooling of skills and knowledge, especially if each stakeholder has a comparative advantage on a management aspect.

Not only do the area and each stakeholder get specific negotiated benefits out of the partnership, but there is also an increased capacity for better resource management and a greater commitment to implement agreed decisions because of enhanced communication and dialogue.

As critical issues are discussed relevant to a protected area, each stakeholder gets an increased understanding and knowledge of the views and

positions of others. This prevents problems and disputes to occur and prevents the wastage of resources.

6.6 Summary and Conclusions

The effectiveness and success of managing a protected area, in terms of biodiversity conservation, depends on the activities of those people who are involved with it, particularly the management staff and the stakeholders. Even if biodiversity conservation has always been a reason for the establishment of a protected area, this does not indicate that the working practices of the staff of a protected area necessarily serve the interests of conservation of biodiversity. The focus and consequent activities of staff may be geared towards something different than protecting the biodiversity values of the area.

The staffs of most protected areas are often deprived of both adequate resources and technical know-how and expertise as well. Consequently, they are only able to work with a very limited range of activities. There is an urgent need for people capable of reconciling both the social and biological aspects of biodiversity conservation. In addition, more support especially on financial resources needs to be given more priority so management staff can enhance their capabilities through available training and skill development programmes. Ideally, the modern protected area manager needs to be a sort of "renaissance" person with a solid grounding in both biological and social sciences, as well as resource management and practical diplomacy, and a sense of awe for nature and culture (Furze, De Lacy, and Birkhead, 1996).

In the long run, the most important social groups for biodiversity conservation within protected areas are the local communities, living close to, or sometimes even within, such areas. Such communities will always be present even if other groups get involved. Thus, suspicions that the activities

of local communities are the most common cause of degradation of biodiversity in protected areas sites should not be discounted, but they need not be over-emphasized. Establishing strong partnerships through collaborative management processes can help overcome the difficulties in the relationships between local communities and the authorities of protected areas.

The information and data generated by well-conceived studies undertaken within a protected area can be used as a basis for evolving agreements between local communities and official management agencies that define rights and responsibilities over natural resources of stakeholder parties. This process may involve establishing new institutional arrangements that involves both local communities and protected area authorities.

Saterson (1999) says that one of the first and most fundamental activities a management team must undertake to ensure positive conservation impact in a protected area is to gain a clear conceptual understanding of the site conditions that the team is working on and the situation it is trying to address. It is also extremely important that the duties and responsibilities of each stakeholder in the management of a protected area are clearly defined and the extent to which their participation is needed or allowed in the partnership. A collaborative management regime may thus present different characteristics not only from place to place but also, in a specific location over time. It should be definitively considered more as a **process** than as a 'fixed state of affairs' (Borrini-Feyerabend, 2000).

Borrini–Feyerabend (2000) also shows a schematic representation in **Figure 6.2** of the extent of participation in a collaborative management programme from the perspective of the management agency. She points out that collaborative management processes and agreements are tailored to fit the unique needs and opportunities of each context. In other words, there is

no 'right place' to be in the participation spectrum of **Figure 6.2**. Approaches to stakeholder participation in different protected areas need to fit their specific historical and socio-political contexts. Collaborative management is a process of "learning by doing" that leads toward a better recognition of specific needs and opportunities for involving stakeholders.

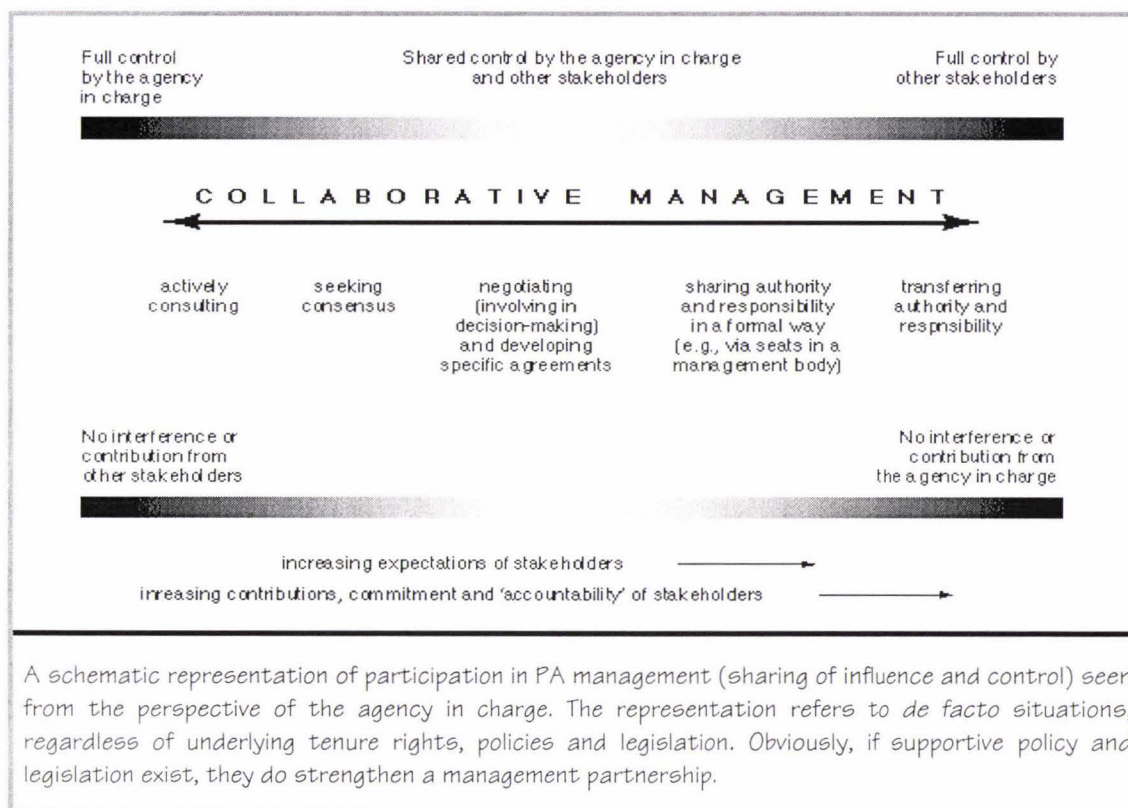


Figure 6.2. Participation in protected area management – a continuum in PA management

Source: Grazia Borrini-Feyerabend, 1996: *Collaborative Management of Protected Areas: Tailoring the Approach to the Context*, page 11.

A comprehensive system-wide review on all aspects of a protected area can help the management agency win larger budgets, more land, more personnel, and greater public support by using it to develop a plan that will help integrate the many approaches being taken to conserve biodiversity. The review provides a means of assessing the contribution of existing protected areas to biodiversity conservation. It can be the gauge for politicians, administrators, non-governmental organizations, and development assistance agencies to know whether investing in this undertaking is worthwhile.

Chapter 7. Results of Field Research

Part of the objectives of this research study was to evaluate the management schemes of these two urban parks by comparing them and reviewing their effectiveness against the criteria set by international and local guidelines, existing values, and visions of park management personnel and visitors. More specifically, the implementation of these management schemes was evaluated in terms of (a) park management, (b) visitor management, and (c) biodiversity conservation. Impacts by visitors to these sites and the impacts of these sites to its surroundings were documented.

Further, the research also examined how this evaluation can be used as a planning tool by the park management in making present and future management decisions to meet and achieve environmental ends.

To achieve these ends, the research study involved (a) conducting interviews with park management personnel for both sites using an interview schedule, (b) documenting activities within the sites by taking video footages plus photographs, and (c) conducting a survey among park visitors. Aside from the two (2) main resource persons from the top management for the two sites, five (5) other staff members were asked to address the questionnaire intended for park personnel. This chapter is devoted to discussing the results of the three (3) main methods by which data was gathered for the research.

7.1 Highlights of the Interviews with Park Management Staff

7.1.1 DENR Wildlife Rescue and Rehabilitation Center¹

1. Originally, there was no management plan for the WRRC. The new management plan being prepared by NRDC basically focuses on co-management structures and processes. In this scheme, the management and administration of the Rescue Center remains under PAWB. The Foundation sources out funds to initiate whatever development is planned for the Center and NRDC takes charge of marketing. Other entities that would want to get involved in management activities will be evaluated on the basis of their capabilities and intentions.
2. The WRRC will be transformed from a protected area to an ecological destination park whose main thrusts will be conservation education and research. One component of the research will be on disease control and management. Expertise on flora will be strengthened as well.
3. PAWB did not conduct any feasibility study on how the park should be developed although NRDC claims to have done so before the management plan was conceptualized. An EIA for the park was done by DENR-NCR. Visitor impacts surveys were not conducted for WRRC but a study done by the Environmental and Natural Resource Accounting Project (ENRAP) and former PAWB Assistant Director Celestino Ulep on user fees was used to determine the rates for entrance fees charged to enter the park (new user fees are now in effect since the DENR Secretary has signed Administrative Order No. 47,

¹ Main respondents for the management interview were PAWB Assistant Director Theresa Mundita Lim and Park Director Jesus Domingo.

series of 1993). The fees collected go to an Integrated Protected Areas Fund (IPAF) and can, on request, be used for the management of the park.

4. The former mini-zoo and rescue center will be enlarged from the original one (1) hectare area to seven (7) hectares and will be called *Lungsod Kalikasan*. These physical changes will be constructed by phased development.
5. Both AD Lim and Director Domingo agree that since the dis-establishment of NAPWNC and the establishment of the WRRRC, an internal power struggle has occurred and continues to happen between the heads of each unit designated to run and manage the park. This has posed a problem of coordination between these units.

7.1.2 Quezon Memorial Circle²

1. The original concept of the Quezon Monument and Memorial Circle is to designate it as kilometer zero (0) from which all the main roads in Quezon City emanate. Because it is a national shrine, no other vertical structure should be allowed within its immediate vicinity. The Circle belongs to the Quezon City government.
2. Architect Antonio Mañosa designed a physical plan for the park. This plan however was totally discarded when Atty. Charito Planas became manager of the park. No feasibility studies were conducted to guide the development of the park. To date, there is no plan, no concept, and no expertise used to manage QMC. Mr. Enrique Avanceña, QCPDFI board member, cites proposals coming up sporadically, (e.g. ice sculpture exhibit which brought about a warning from DENR-NCR Director Corazon Davis because trees were cut to

² Main interviewees for QMC include Park Manager and Foundation President Charito Planas and Board Director Enrique Avanceña.

make space for this activity without getting the necessary permit). Instead, the Board of Directors of the Foundation approves plans for the park's development with the primary objective of generating revenues. Mr. Avanceña refers to this as a "tiangge (flea market) mentality."

3. Mr. Avanceña also stresses the need to have a general agreement on how the park should be run by conducting studies, carrying out consultations and hiring experts. On the other hand, Atty. Planas has stated that she sees herself as a "hands-on" manager who does not recognize the need to get experts' help and is not aware of international guidelines and principles on urban park/protected areas management (per interview conducted with her in August, 2000).
4. Mr. Avanceña further states that since QMC is a national shrine and a part of a protected area, its features should remain and be distinct from an amusement park that Atty. Planas is transforming it into. Inventory of its physical and other resources should be made (per interview conducted with him in July, 2000).
5. Because of a QC Council resolution, revenues that are generated from the park are automatically appropriated to it in the form a donation to the Foundation. Mr. Avanceña thinks that a budget still needs to be prepared yearly before funds could be released and consequently, proper auditing should be done (per interview conducted with him in August, 2000).

7.1.3 Other Inputs from Park Management Respondents

For WRRC:

1. There should be more decisiveness in implementing goals and objectives for WRRC (Dely Rubio, EMS II).

2. There should be enough park staff that is qualified, well trained, and knowledgeable (AD Lim).
3. A main concern for park management is to ensure that there are continued efforts to pursue goals and objectives even with the change of administration (AD Lim).
4. The increasing number of illegal occupants creates an unpleasant view and adds threats to the park (Melchor Bangaoil, Engineer II).
5. There should always be the assurance that funds will be available to carry out plans and programs (Priscilla Calimag, Chief, EMS) and that there are permanent staff to carry out the jobs (Rubio).
6. An information campaign should be set in place to let people be aware of plans and see what role they can do to help the park as volunteers or donors (Rizza Fernandez, Veterinarian I).

For QMC:

1. Policy makers should be encouraged to strengthen laws in protecting the park (Arneil Bangué, Architect III).
2. The public should be made more aware of the park's role and be allowed to have an active role in planning and managing the park (Avanceña).
3. The park should be allowed to use 100% of its budget. At times, funds allocated for the improvement and development of the park are used for other purposes (Mary Ann Tecson, Architect III and Edna Castillo, Special Operations Officer IV).

4. An information and education campaign should be set-up to allow the people to participate in programmes (Bangué and Tecson).
5. Plans and changes in the park should always be in consultation with the public/community. More knowledgeable people should be hired (Avanceña).
6. Cooperation and support are needed from the public and non-government organizations (Rhodora Sermeno, OIC- Quezon Shrine).

Appendix 9 and *10* give the tabular summary of the responses during the interviews conducted among park management staff of both sites.

7.2 Discussion of Survey Results

There were 78 respondents for QMC and 96 for WRRC who were chosen randomly among park visitors. The visitor survey was conducted for one month to have a variation of days (peak days on weekends/special events compared against ordinary days). SAS was used to analyze the survey results. **Table 7.1** shows the comparison of survey results for the two sites.

7.2.1 On Park Management

Most park visitors think that the parks are being managed well and are better compared to other parks within Metro Manila. Visitors come to the park mainly to give their children some form of recreation, relaxation, sightseeing, and exercise. Aside from these reasons, visitors are drawn to the parks on special events like cultural shows and regular activities (rallies, concerts and musical events). They see the need foremost for a first aid station, additional

playgrounds and recreational facilities, an information center aided by maps and signs, and a better waste disposal system.

Visitors at WRRC belong to a higher income bracket than those coming to QMC, and therefore they can afford to pay for entrance fees. The entrance fees charged to enter WRRC are reasonable but park visitors at QMC think that parking fees are not. Visitors don't mind paying fees to use the comfort rooms at QMC as long as they remain clean and sanitary although generally, comfort rooms should be available for use to the visiting public without charge. On the other hand, visitors at WRRC feel comfort rooms should be open for longer hours.

Although research has not been a priority to date at WRRC, the present management has set it as one of the major components of its programme after the conception of WRRC as an ecological destination. Meanwhile, QMC management still continues to develop the park as a recreational theme park that runs contrary to its original concept of a memorial shrine.

Management systems based on clear objectives, plan formulation, accountability, and effective community input are non-existent at QMC. On the other hand, WRRC, as a government agency, is required by the national planning agency (NEDA) to make a yearly work and financial plan that should be the basis of its management and operation.

From the interviews conducted with management staff of both parks, this author has come up with an analysis of how WRRC and QMC are meeting the management objectives set forth by IUCN and DENR/PAWB/EMB for protected areas. QMC ranks below par in this aspect compared to WRRC. This analysis is reflected in **Table 7.2**.

Table 7.1: Comparison of Survey Results of Park Visitors

Visitor Profile	QMC	WRRC
Age	16-17 12-13	20-22 36-37
Occupation	College and High School students	College students and Government Employees
Income	7500-10000	10000-12500
Gender - F - M	60% 40%	75% 25%
Frequency of visit to park	0-5 times mostly on special events/ occassions	0-5 times mostly on special events/ occassions
Management Profile	QMC	WRRC
Comparison with other parks		
Better	28	47
Same	24	9
Worse	3	
Cannot compare	27	20
Reasons for visits	1. Historical/cultural 2. Exercise 3. Relaxation 4. Landscape 5. Children's recreation	1. Picnicking 2. Children's recreation 3. Wildlife appreciation 4. Plant diversity 5. Affordability
Activities enjoyed	1. Special events 2. Exercise 3. Relaxation 4. Sightseeing 5. Jogging	1. Picnicking 2. Studying 3. Sightseeing 4. Plant/wildlife appreciation 5. Outdoor recreation
Rating of park services	1. Museum 2. Special events 3. Exhibits 4. Library 5. Picnic area	1. Wildlife/plant conservation 2. Park maintenance 3. Picnic area 4. Comfort rooms 5. Personal security
Park visit expectatons	Fair	Fair
Entrance fees charged	Not reasonable parking fees	Fair

Table 7.1 : Comparison of Survey Results of Park Visitors

(page 2)

Management Profile	QMC	WRRC
Additional facilities?	<ol style="list-style-type: none"> 1. First Aid station 2. Information center 3. Waste disposal 4. Maps and signs 5. Children's playground 	<ol style="list-style-type: none"> 1. First Aid station 2. Zoo and rescue center 3. Waste disposal 4. Children's playground 5. Information center
Strategic location?	Yes	Yes
Managed well?	Yes	Yes
Conservation efforts	Yes	Yes
Reasons	<ol style="list-style-type: none"> 1. Park as source of livelihood 2. Playground still intact 3. Clean and sanitary 4. No rowdy crowds 5. Well maintained grass 	<ol style="list-style-type: none"> 1. Well-maintained facilities 2. A lot of improvement in park 3. Clean and sanitary
Problems	<ol style="list-style-type: none"> 1. Security is poor/lacking 2. No planning/facilities not well-maintained 3. Lack of manpower 4. Not enough comfort rooms and shelters 5. Not enough recreational facilities 	<ol style="list-style-type: none"> 1. Security is still lacking 2. Decrease in animal population 3. Poor garbage collection 4. Maintenance still lacking
Comments/Suggestions	<ol style="list-style-type: none"> 1. Add public comfort rooms. 2. Add park maintenance personnel. 3. Sell more affordable food. 4. Make people more aware of rules and regulations. 5. Install maps and sign for tourists and ads for environment protection. 6. Designate pedestrian lanes. 7. Parking area should not be used for other purposes. 8. Park should be handled by NGOs or other entities for proper maintenance. 9. Parking fees should not be collected. 10. Preserve landscape and trees. 	<ol style="list-style-type: none"> 1. Put additional recreational facilities. 2. Add zoo and souvenir shop. 3. Put suggestion box. 4. Lengthen opening hours. 5. Increase budget of park. 6. Improve security and park maintenance. 7. Improve rules/ regulations on nature conservation. 8. Improve pathways, kiosks and playground. 9. Add more signs, benches and drinking fountains. 10. Deal with the presence of street children.

Table 7.2 : An analysis of how QMC and WRRC fulfills international and local management objectives for protected areas

Management Objectives	QMC	WRRC	Legend :
A. IUCN			★ - Considered X - Not considered
1. Scientific research and education	X	★	
2. Wilderness protection	X	X	
3. Preserve species and genetic diversity	X	★	
4. Maintain environmental services	X	★	
5. Protect specific natural and cultural features	X	★	
6. Sustainable use of resources from natural ecosystems	X	X	
7. Maintain cultural/traditional attributes	★	X	
8. Produce protein from wildlife	X	X	
9. Produce timber, forage or extractive commodities	X	X	
10. Provide recreation and tourism services	★	★	
11. Maintain open options, management flexibility and multiple use	★	★	
12. Contribute to rural and integrated development	X	X	
13. Protect scenic beauty	X	★	
14. Ensure options for the future	X	★	
B. Philippines			
1. Protection of ecosystem and habitats from exploitation, encroachment and destruction by human beings	X	★	
2. Conservation of habitat for the breeding of endangered/threatened wildlife and maintenance of biodiversity	X	★	
3. Achievement of compromise between preservation efforts, recreational needs and requirements of local people	★	★	
4. Facilitation of controlled experiments and research on ecosystems, habitats and wildlife	X	X	
5. Promotion of people's awareness of the role of ecological patterns and inherent fragility	X	★	

Being under a government entity (DENR/PAWB), WRRC is more aware of the management objectives set internationally and locally for protected areas. Thus, it has met more than half of these objectives internationally and almost fulfilled all of the objectives locally (refer to **Appendix 11** - Protected Area Suitability Assessment (PASA) save for one (facilitating controlled experiments and research). QMC, on the other hand has not met these objectives mainly because top management was not aware of the existence of management objectives set internationally and locally. Contributing to this failure is the lack of experts on the field of park management at QMC.

7.2.2 On Visitor Management

Both parks are determined to be strategically located within the city. However, much is to be desired with respect to garbage collection and disposal, and the security of park visitors. Notable is the presence of street children and criminal elements especially at QMC (since entry is free). Although there are already a considerable number of facilities available, park visitors see the need for their proper maintenance through an increase in budget and in the number of park maintenance personnel.

Visitors of both parks find the need for food concessionaires who would sell more affordable food products. They also identify the need to put more drinking fountains, kiosks, and benches in picnic areas, and souvenir shops. WRRC visitors would appreciate having the park open for longer hours. QMC visitors would like to see maps and more signs around the park to help them in locating areas.

Table 7.3 shows the perceived and potential negative environmental impacts park visitors create during their visit to the sites. Videotaped footages taken on several occasions show evidence of these impacts.

**Table 7.3 : Potential Negative Environmental Impacts of Visitor/
Recreation Activities at WRRC and QMC**

Visitor/Recreation Activity	Negative Impact	Effects
Overcrowding	Environmental stress on animals and humans like noise pollution	Behavior changes like irritation and deviation from normal activity
	Excessive manmade structures	Loss of natural beauty
Overdevelopment	Increase in squatter community	Unightly urban-like development
		Loss of security/safety
Fishing on man-made lake	Loss of fish population	Destruction of habitat
	Water pollution	Alteration of aquatic plant production
Bird hunting	Destruction of bird habitat	Loss of bird species
Sightseeing/walking	Site deterioration	Loss of safety for visitors
		Development of undesired trails
Trampling	Impacted ground cover vegetation	Exposure of tree roots
Camping	Loss/destruction of vegetative cover	Reduction of tree seeding
		Removal of plant/tree limbs and barks
Noise	Disturbance of natural sounds	Scarring due to nails, rope or sharp objects
Litter	Impairment of natural scene	Irritation to wildlife and other park visitors
	Habituation of wildlife to garbage	Loss of aesthetic value
Vandalism	Mutilation and facility damage	Aesthetic and health hazard
Feeding of wildlife	Behavioral changes	Removal/destruction of natural features
	Direct transmission of diseases from humans to animals	Can cause danger to park visitors
		Modification of habitat (feeding hours)
Vehicle off-road driving	Soil and vegetation damage	Loss of species
	Behavior changes in animals	Ecological changes
		Exposure to stressful conditions
Unauthorized souvenir collection	Removal of natural attractions	Disruption of breeding and reproductive patterns
	Disruption of natural processes	Destruction of flora
Infrastructure construction	Destruction of vegetation	Disturbance to wildlife
		Aesthetic scars
		Destruction of habitat

7.2.3 On Biodiversity Conservation

It can be gleaned from survey results that WRRC invites a more mature public than QMC. Consequently, park visitors at WRRC are better able to understand and appreciate conservation efforts being undertaken and promoted in the park than at QMC. On the other hand, because younger people visit QMC more often, they are able to appreciate better the activities geared toward their age like discos, roller-skating and cycling.

Most park visitors think WRRC is meeting its objective of wildlife and plant conservation. A few took note of the decline in the animal population housed in the zoo. On the other hand, most QMC visitors feel that the landscape and trees in the park should be preserved.

Chapter 8. Recommendations

This research has focused on evaluating the management of two urban parks with respect to (a) park management, (b) visitor management, and (c) biodiversity conservation. Recommendations and suggestions for further research, which the author finds to be relevant for the two sites under study, will therefore be written for each of these three components of urban park management in this final chapter.

8.1 Park Management

8.1.1 Park Administration

Sharpe, Odegaard, and Sharpe (1994) say that it is imperative to secure, study, and understand all state or local laws, ordinances, and policies that affect a park. It is always helpful to be constantly directed by laws passed by the agency managing the park through administrative acts. Although it is important to be familiar with laws and policies emanating from all levels of government, it is a must to know your own first. It is equally important to study the history of the management agency and those who played key roles in the successes in developing and improving the parks but also to learn from past mistakes.

The QCPDFI who manages QMC should review the historical background of the park and bear in mind that it is a historical shrine first and foremost, built to signify a landmark of Quezon City. From this concept should emanate all the plans for the park and whatever plans are on the drawing board should be reviewed, reconciled, and checked to be consistent with this concept.

For a park like QMC, which is managed by a Foundation, each board member should get acquainted with the rest of the board to make sure that they have a common understanding of the park's purpose, objectives, and needs. It is vital that the policy, goals, and objectives of the park are understood and supported by all as a unit.

Given the management difficulties that have been identified in this research, it is perhaps timely to review the management control of QMC by the Foundation. In every management arrangement, a system of checks and balances is necessary. For every responsibility held, with it comes accountability. It is very difficult to understand why the Quezon City government had allowed the Foundation to continue disbursing funds for more than ten years without being accountable for how the people's money was spent, even after an audit had been completed and strong recommendations by the Commission on Audit were put forward to rectify this error (Adlao, Sison and Villaluz, 1991).

WRRC on the other hand, has been a victim of changing administrations. With the recent events that have transpired (another turn-over of elected officials, and consequently, a change of heads of departments), continuity of the plans for the park are again being put to the test. The previous administration has just re-established the park and re-defined its focus to be a wildlife rescue and rehabilitation center. It is uncertain whether the new administration will retain this concept. It is therefore up to the transition park management team to defend the current plans for the park and justify its existence as such.

For WRRC which functions under government department, it is important for all other agencies involved in its supervision to get a clear grasp of how each of them should operate under the umbrella of a lead agency to eliminate actual and potential power struggles within. Each plays a significant and specific role in the management and development of the park and a complementary approach is

required. Because it is opting for a collaborative management scheme, WRRRC should first be able to identify which stakeholders can be tapped to be beneficial partners.

Both management teams of each park should visit appropriate people in other agencies and entities to find out not only how they relate to the park but also how they can contribute to the effective management and development of the park. An understanding of the levels of involvement by other units and the levels of responsibility is important for networking. Park administrators must be able to see the varying positions of other agencies and devise methods to keep everyone aware of each other's views and how they can affect, and get affected, by the existence of the park.

QMC must prepare a management plan to ensure that the site is managed to achieve legislative objectives, stakeholder expectations, and conservation management objectives to achieve a quality environment consistent with the prevention of incremental degradation of the park. QCDFDI must also provide public accountability* by having a "statement of intent" for the community that clearly states in the management plan what it wants to achieve for the park and formulating criteria by which its performance of management under the plan will be assessed.

Such a plan needs to adopt a management by objectives approach. Superior and subordinate managers can jointly identify common goals, define each individual's major areas of responsibility in terms of the results expected, and use these measures as guides for operating and assessing the contribution of each member to the management of the park. It means working towards targets, setting aims, and seeing them in a wider context.

* Accountability is the clear and transparent assumption of responsibilities, the capacity and willingness to respond about one's own actions (or inactions) and the acceptance of relevant consequences.

The management plan should provide for regular assessment of park needs with an adequate feedback mechanism to permit the inclusion of new and more appropriate objectives and strategies. This can be achieved through the regular conduct of frequent and regular reviews of the park to determine how well the park is being maintained and operated, and can be accomplished through visitor surveys and staff evaluation. If park management analysts collect sufficient information, complete thorough analyses, and study the history and trends of the park long enough, then these data on the present day situation of the park can be well understood, and ways and means to manage the park can be enhanced.

Monitoring is also necessary as a technique for assessing long-term trends affecting the resource, the visitor experience, the profile of the visitor, or as a method for assessing particular issues of management concern, such as visitor impact.

Park management involves working with people and usually with other governmental agencies, institutions, and private organizations. If park management wishes to serve, survive, and succeed, it must enter into this challenging world of active public involvement fully equipped and consistently informed.

8.1.2 Human Resources

The staff complement of both WRRC and QMC are mostly without security of tenure and generally without expertise in their respective fields of responsibility. This alone is reason enough for the management staff not to be able to function well. As a consequence, the parks are not managed well. The existing government policy that prohibits casual and temporary employees from

undergoing additional training further compounds this problem of human resources upgrading. As a solution, park management can either work on creating permanent positions for their staff or lobby to change this government policy.

The management staff needs to know what goes on every day within the park. The lack of communication between top management with those further down the chain of command is a very common problem. It is the staff who makes contact with park visitors; therefore, they can address questions from the public or from other agencies more effectively. Feedback on how the park is meeting its goals and objectives needs to be constantly relayed to the management staff so changes can be carried out when needed.

Every employee should understand the political context relating to the site and assist park management as much as possible through good public relations and take part in community outreach programmes. Park managers can do this by participating in service clubs, speaking at parent/teacher meetings in schools throughout the city, sponsoring "get acquainted" days with the park, or take part in other actions that bring managers into the life of the community in which they find themselves.

Park managers require a wide variety of skills to do their jobs effectively. Training in the past has often focused on natural resources management without adequately covering other skills such as administration and communication. Promoting and broadening in-service training is an effective way to build the capacity of the staff to cope not only with the usual day-to-day problems of operations but with unexpected situations as well.

8.1.3 Physical Planning

It is disappointing to note that neither site had kept file maps to show how the parks have been physically transformed through the years. The author believes this is a very important part of the history of each site. Park management would then have been able to study how the present park evolved from its original state and determine what could be done to preserve, enhance, or improve it.

Both parks are currently undergoing some form of transformation with the construction of physical structures: the Lungsod Kalikasan Zoo for WRRC and the seminar building for senior and disabled citizens for QMC. It is disheartening to learn that no detailed evaluations have been conducted before the plans were completed. For instance, the services of a very inexperienced architect have been hired to design the seven-hectare zoo. Similarly, the seminar building was erected in an ad hoc manner. It must be remembered that a lot of resources are being utilized to set these structures in place and it is appropriate that a full study is carried out before projects like these are built.

8.2 Visitor Management

The use of interpretative signs is very prominent in WRRC and QMC. However, maps of the parks are scarce. There is only one map at WRRC showing the plan of the new zoo while there are none at all at QMC. It would be helpful to visitors upon entering the park to be provided with a small map, pamphlet, or a brochure of the park. The map can aid the visitor to know the options of places to see and explore while the brochure can explain the essence of the park. Part

of the contents of the brochure should state the rules and guidelines while visiting the park.

One essential element missing from both parks is a visitor information center where a visitor can get information related to appreciating the park. Setting up such centers is greatly needed to deliver good quality service to visitors.

Visitors must learn to acknowledge that there is a price to pay in order to appreciate and make use of a recreational site especially if the site is part of a protected area. DENR has passed an administrative order relating to park fees that have been put in place while QMC remains a "free" park. Not exacting an entrance fee from park visitors has given QMC the reason to complain that maintenance funds for the park are not enough. Still, visitors must have a willingness to pay for the use of the parks. While benefits are derived from the use of the park, visitors must be willing to give back a portion in a feasible way to keep the park resource viable and sustainable. Therefore, park fees should be implemented at QMC.

Visitors have expressed concern over the lack of security while staying inside the parks. Park management must ensure that visitors are safe from anti-social elements at all times. Since funds are lacking to hire additional law enforcement personnel, park management can encourage volunteers from the community to perform this task.

8.3 Biodiversity Conservation

Preece, Oosterzee, and others (1995) say that one of the major impediments to more effective protection and conservation of biodiversity is a

lack of funds for research and management purposes. This is true for the parks under study. Research is an important management component at WRRC but it has never been on the priority list of programmes until now. In response to this need, a research center is being proposed at WRRC but sources of funding to carry out research activities have not yet been identified. The situation at QMC is even worse because there is no research component at all nor an established management plan. Management should realize that research helps determine which direction the park should move towards and take steps to encourage the government to put more funds for research. In addition, other sources of funds for research should be tapped. This research can then form the basis of specific policies that can be directed towards protecting biodiversity values.

8.4 Collaborative Management: A Solution

The idea of government agencies and communities working together to develop conservation management strategies is not new and there are many examples of partnerships that exist in various forms in a number of countries. The strength of collaborative processes lies in the creative approach to problem solving when different groups are actively involved. Face-to-face negotiations will allow the different parties to more fully explore the issues and collectively come up with solutions that work. This author believes that collaborative management is the best option to take in order to effectively manage these two urban parks.

However, establishing a collaborative management for both parks entails constructive discussion and careful planning which takes time. There is a need to build enough time into the process for stakeholders to learn about each other, overcome their differences, and begin to "speak the same

language." More time may also be needed to resolve problems and disagreements.

Partners in the collaborative management can start by developing a shared understanding and a vision for the sites by identifying the significance of the areas, consolidating and clarifying legislative and policy issues, integrating various elements of management, and conveying to the public and management staff how the site can be protected and visitors provided for.

By generating a commonly shared vision, collaborative management can build long-term support that can improve the implementation of the management plan. By involving the public more fully in planning and decision-making, the stakeholders' levels of responsibility, involvement, and commitment are increased.

Effective communication, coupled with transparency, is essential and should be used as a primary tool to solve problems and reach agreements. Effective communication improves everyone's understanding of the issues and other's needs and concerns, thereby reducing conflict.

Decisions should generally be made by consensus to ensure that everyone's needs and concerns have been addressed. By working to address everyone's concerns, partnership groups often come up with creative and widely acceptable decisions. It should also be recognized that during implementation, the effectiveness of an agreed course of action could be affected by specific changes in the country's policies and laws. Partners should always be abreast of policy changes that can affect decisions that have been already made.

It must also be remembered that uncertainty is part of reality. Therefore, all alternative options need to be considered before final decisions are taken.

Sometimes, actions should be undertaken when it is considered that not doing so could impose significant costs on the present generation. Nevertheless, compromise is often the best way to serve everyone's interest in the long run, especially when an obvious conflict is replaced with the stability and predictability of a mutually acceptable solution.

Similarly, there is a need to respect all the issues that are raised in the discussions among stakeholders; no matter how simplistic or controversial they may appear. Sufficient time needs to be allotted to consider all sides of an argument to avoid discussion becoming biased towards more vocal or powerful interests.

Compliance with the components of the management plan, its agreements and rules, is essential to the effectiveness of the whole collaborative management process. If some stakeholders violate the rules or do not accomplish what they agreed to do, others are soon likely to follow suit. To prevent this, the co-management plans and agreements need to specify who is responsible for enforcement, what means are at their disposal, and what regular checks need to be carried out. A committee can be formed or specific individuals can be put in charge and made accountable for each component of the co-management plan or main activity.

In this sense, an important concept and principle to apply is that of "accountability." It is also important that the process is not entrapped in some rigid and bureaucratic enforcement system. Co-management relies on the passion and creativity of the groups and individuals involved and on their ability to manage human relations in an informal and cordial manner. Flexibility and good human relations may go a long way towards solving complex, difficult, and awkward controversies.

In order to "learn by doing," it is not only important to collect data and information, but also to have a constructive attitude. If mistakes are regarded as opportunities for learning, and people are rewarded for identifying problems and promoting innovative solutions, "learning by doing" can be a powerful and positive process. On the other hand, it is important that innovations, and in particular innovations regarding management plans agreed on by all stakeholders, are not introduced without careful analysis and authorization.

It should be stressed that co-management enables stakeholders' roles to complement agency activities. Local communities can be positive partners within parks where biodiversity conservation values are vulnerable. Such communities can be granted their rights to enjoy, manage, and profit from the wise use of the park in terms of mutually agreed management goals. However, they should also share the responsibility with relevant agencies and other stakeholders involved in the management of the park's protection.

One of the main problems in the management of the sites under consideration is the lack of financial support from the government. Well-managed partnerships can improve on-the-ground management by pooling resources of several organizations, agencies, and individuals. Pooling resources provides various benefits; for example, volunteer involvement may increase and a broader base of financial support can be drawn upon.

It must be remembered that collaborative management structures should be flexible, and designed to grow. There is no need to involve reluctant stakeholders in the beginning. On the other hand, new stakeholders may be identified along the way.

In **Figure 8.1**, the author attempts to link all the management-planning tools to the three (3) major concepts of urban park management that are dealt

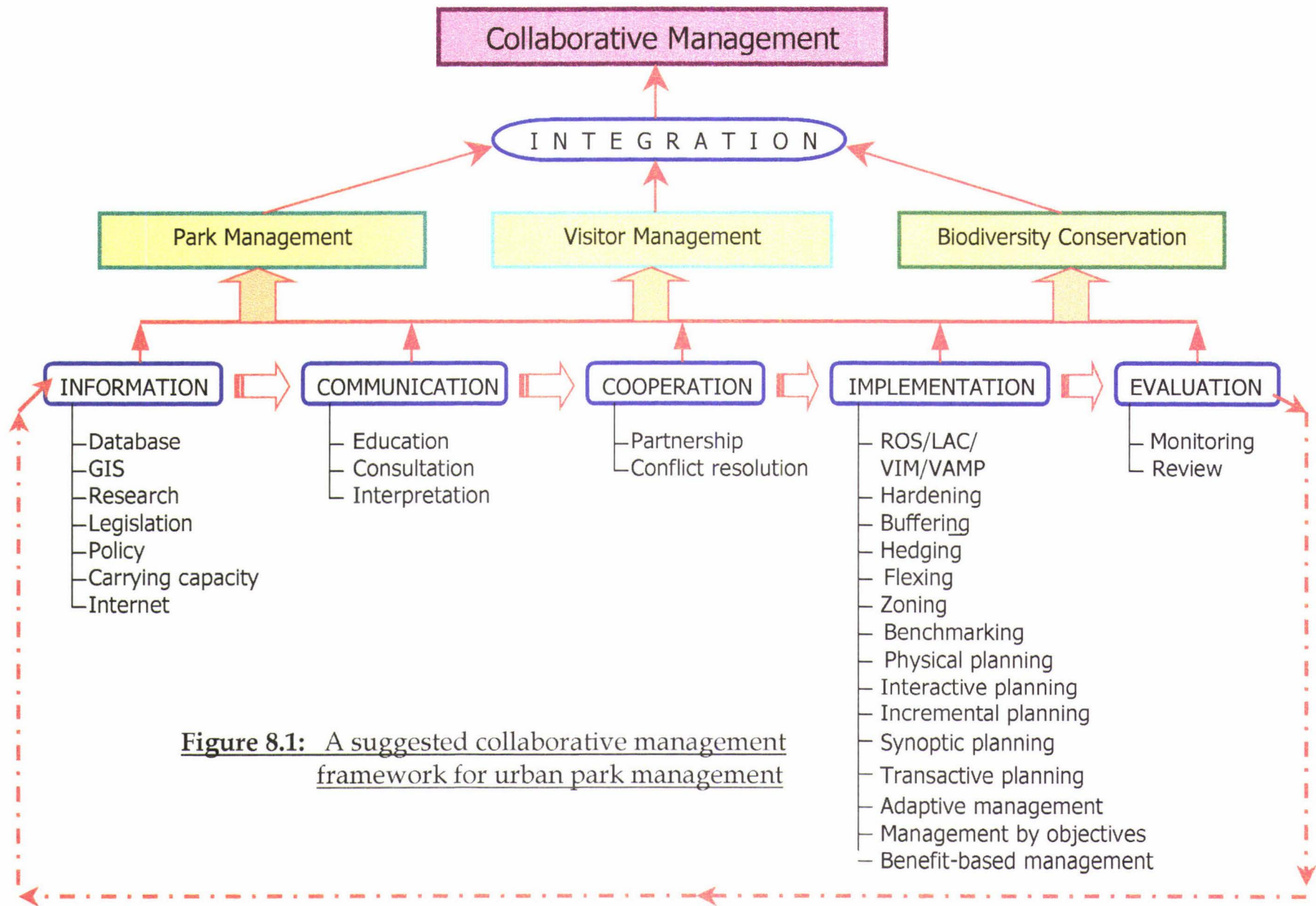


Figure 8.1: A suggested collaborative management framework for urban park management

with in this research and how they can be encapsulated in a collaborative management framework. Cohesive integration of all of these components is a key requirement, but the way in which the components are utilized and the outcomes that emerge from a collaborative management process will depend on the resources, skills, and deliberations of any stakeholder group that is established.

The suggested framework is ambitious, but it offers the potential for management decisions that have broad public support and are informed by good accountable systems. It is not appropriate for the author to identify the likely outcomes of such a process. They can only emerge out of an inclusive and well-designed programme.

In **Table 8.1**, the author presents the extent of how the management-planning tools in the collaborative management framework have been utilized in the sites.

8.4.1 Potential Benefits and Difficulties of Collaborative Management

Collaborative management is essentially a power-sharing process that is brought about by a variety of institutional arrangements and can emerge in different contexts. These can be categorized as follows (Taiepa, 1998):

- **Claims-based** in which regimes are established under formal settlement processes usually involving state governments and an identifiable group whose interests have been negated or ignored;
- **Crisis-based** which responds to major environmental conflicts, and

- **Community-based resource management** that increases community involvement in land and resource management decisions.

Taiepa (1998) further says that to be effective, collaborative management must have three basic attributes: legitimacy, power, and resources. **Legitimacy** refers to public confidence in, and support for the governing agency. **Power** is the acknowledged legal capacity to act. **Resources** consist of the physical means of acting – financial, economic, and natural resources for security and on-going development; skilled people, information, and appropriate technology. When one of these attributes is lacking, collaborative management is bound to fail.

As long as the legal framework is set in place for partners to establish a collaborative management structure, appropriate systems can result.

Sunde, Taiepa, and Horsley (1996) summarize a number of essential elements for the establishment and success of collaborative management structures. They include the following:

- Common conservation goals that are decidedly collective;
- Shared vision(s) that are mutually acceptable;
- Consistent commitment at all levels of agency management;
- Strong political will;
- Clear focus and structure from a well-defined group;
- Legal framework for shared decision-making processes;
- Balanced authority and broadened responsibility for decision-making;
- Adequate time and willing adaptability for participant involvement;
- Appropriate ecosystem scale;
- Adequate resourcing;

Table 8.1 A Comparison of How Planning Tools are Utilized at QMC and WRRC.

Planning Tools	QMC	WRRC	Comments
A. Information			
Database	N	Y	WRRC has a partial database but it is not comprehensive.
Geographic Information System	N	N	WRRC has access to GIS through DENR/NAMRIA.
Research	N	Y	WRRC has put a research component in its management plan.
Legislation	Y	Y	
Policy	N	Y	WRRC has clear policy statements.
Carrying capacity	N	N	No studies have been carried out for both sites.
Internet	N	Y	WRRC has access.
B. Communication			
Education	Y	Y	Schools arrange for field trips; students attend seminars conducted by the staff.
Consultation	N	Y	WRRC has consulted with NGOs.
Interpretation	Y	Y	Intepretative tools are present, but not sufficient to provide vital information to visitors.
C. Cooperation			
Partnership	Y	Y	WRRC is working with a newly-established foundation.
Conflict resolution	Y	Y	Conflicts are resolved by vote through a board.
D. Implementation			
ROS/LAC/VIM/VAMP	N	N	No visitor management tool used on either site to date.
Hardening	Y	Y	It is used extensively in both parks especially for walkways and vehicle access roads.
Buffering	Y	Y	Both parks use trees to buffer its surrounding areas.
Hedging	N	N	Decisions are made based on options not necessarily considering the worst outcome.
Flexing	N	N	It is not commom practice to systematically look for errors after a decision is made.
Zoning	Y	Y	It is used only as rudimentary in both parks but needs to be expanded.
Benchmarking	N	Y	WRRC sent staff to observe a Singapore zoo.
Physical planning	Y	Y	Although it is present,it is not implemented well because no prior studies are conducted.
Incremental planning	Y	N	WRRC's performance is based on set definite criteria therefore it cannot use this tool.
Synoptic planning	N	Y	QMC has set goals and objectives set by the tri-partite agreement which are not followed.
Transactive planning	N	N	To date, local people have not been given control over planning for the parks.
Adaptive management	N	Y	WRRC coped with changes in management and legislation.
Benefit-based management	N	Y	QMC has become highly commercialized.
E. Evaluation			
Monitoring	N	Y	WRRC has an inventory of its flora and fauna and other resources.
Review	Y	Y	QMC has been audited by COA; WRRC's performance is evaluated yearly by DENR.
Legend : Y - present N - absent			

Recommendations

- Sustained capacity building;
- Mutually acceptable systems for representativeness and accountability, and
- Appropriate negotiation and mediation processes.

8.5 Suggestions for Further Research

A good initial exercise to complement this research study is to prepare a physical plan to determine the best use of the land within the sites and make suggestions to each park management agency about how this land use plan can be implemented. Although on-going site construction is taking place in both parks, it is never too late to revise the proposed components of the physical plans to meet the changing demands of the visiting public.

Since the sites are located in the Philippines, a country with two prominent seasons, research should be carried out to determine what activities are appropriate to be promoted during the wet season (from June to October yearly) when the number of visitors is lean. Indoor activities like educational seminars and training are suggested which could be incorporated within the curriculum of elementary and secondary students.

On this note also, visitor surveys should be conducted on a regular basis to help park management determine if visitor needs and expectations are met. Visitor surveys have not been conducted for either site. It is therefore time to give priority to this activity because crucial data and information relevant to park and visitor management can be generated through visitor surveys. The information generated from the visitor survey the author conducted for this study can be used as an initial effort to start the database for each park.

As has been noted, neither park has set up a comprehensive information base. Although WRRRC has kept an inventory of its resources, QMC has none. Knowledge of resources that are available is vital for good management decisions. A relational database would be helpful tool to answer this need. While initial difficulties can be expected in implementing such a system, once it is established, it can be a useful tool as long as data and information are kept current. Equally important is to network with the academe and other research institutions. A regular mechanism for the exchange and dissemination of information would be a necessary requirement to communicate and negotiate collaborative management plans and agreements.

It is also important to emphasize that all the tools and techniques that are summarized in previous chapters are now readily available to park management personnel. However, management teams are always prone to "cure the symptoms and not the disease." The tendency is to be reactive: finding solutions to problems as they emerge and not preventing problems by knowing what might cause them in the first place. That is why the first necessary step in improving park management regimes is to know the site.

Finally, it should be noted that there are no easy golden rules that will assist park managers in their work. The context will always determine the approach, and the approach taken will produce a particular outcome. It is to be hoped though that a clearer understanding of park management approaches, particularly as they relate to visitor management, biodiversity conservation, and collaborative management, will enable parks to better provide for people's aspirations, needs, and enjoyment.

Appendix 1

REPUBLIC ACT NO. 7586

[AN ACT PROVIDING FOR THE ESTABLISHMENT AND MANAGEMENT OF NATIONAL INTEGRATED PROTECTED AREAS SYSTEM, DEFINING ITS SCOPE AND COVERAGE, AND FOR OTHER PURPOSES]

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

Section 1

Title

This Act shall be known and referred to as the "*National Integrated Protected Areas System Act of 1992.*"

Section 2

Declaration of Policy

Cognizant of the profound impact of man's activities on all components of the natural environment particularly the effect of increasing population, resource exploitation and industrial advancement and recognizing the critical importance of protecting and maintaining the natural biological and physical diversities of the environment notably on areas with biologically unique features to sustain human life and development, as well as plant and animal life, it is hereby declared the policy of the State to secure for the Filipino people of present and future generations the perpetual existence of all native plants and animals through the establishment of a comprehensive system of integrated protected areas within the classification of national park as provided for in the Constitution.

It is hereby recognized that these areas, although distinct in features, possess common ecological values that may be incorporated into a holistic plan representative of our natural heritage; that effective administration of these areas is possible only through cooperation among national government, local government and concerned private organizations; that the use and enjoyment of these protected areas must be consistent with the principles of biological diversity and sustainable development.

To this end, there is hereby established a National Integrated Protected Areas System (NIPAS), which shall encompass outstanding remarkable areas and biologically important public lands that are habitats of rare and endangered species of plants and animals, biogeographic zones and related ecosystems, whether terrestrial, wetland or marine, all of which shall be designated as protected areas.

Section 3

Categories

The following categories of protected areas are hereby established:

- a. Strict nature reserve;
- b. Natural park;
- c. Natural monument;
- d. Wildlife sanctuary;
- e. Protected landscapes and seascapes;
- f. Resource reserve;
- g. Natural biotic areas; and,
- h. Other categories established by law, conventions or international agreements which the Philippine Government is a signatory.

Section 4

Definition of Terms

For purposes of this Act, the following terms shall be defined as follows:

- a. National Integrated Protected Areas Systems (NIPAS) is the classification and administration of all designated protected areas to maintain essential ecological processes and life-support systems, to preserve genetic diversity, to ensure sustainable use of resources found therein, and to maintain their natural conditions to the greatest extent possible;
- b. Protected area refers to identified portions of land and water set aside by reason of their unique physical and biological significance, managed to enhance biological diversity and protected against destructive human exploitation;
- c. Buffer zones are identified areas outside the boundaries of and immediately adjacent to designated protected areas pursuant to Section 8 that need special development control in order to avoid or minimize harm to the protected area;
- d. Indigenous cultural community refers to a group of people sharing common bonds of language, customs, traditions and other distinctive cultural traits, and who have, since time immemorial, occupied, possessed and utilized a territory;
- e. National park refers to a forest reservation essentially of natural wilderness character which has been withdrawn from settlement, occupancy or any form of exploitation except in conformity with approved management plan and set aside as such exclusively to conserve the area or preserve the scenery, the natural and historic objects, wild animals and plants therein and to provide enjoyment of these features in such areas;
- f. Natural monument is a relatively small area focused on protection of small features to protect or preserve nationally significant natural features on account of their special interest or unique characteristics;
- g. Natural biotic area is an area set aside to allow the way of life of societies living in harmony with the environment to adapt to modern technology at their pace;
- h. Natural park is a relatively large area not materially altered by human activity where extractive resource uses are not allowed and maintained to protect outstanding natural and scenic areas of national or international significance for scientific, educational and recreational use;
- i. Protected landscapes/seascapes are areas of national significance which are characterized by the harmonious interaction of man and land while providing opportunities for public enjoyment through recreation and tourism within the normal lifestyle and economic activity of these areas;
- j. Resource reserve is an extensive and relatively isolated and uninhabited area normally with difficult access designated as such to protect natural resources of the area for future use and prevent or contain development activities that could affect the resource pending the establishment of objectives which are based upon appropriate knowledge and planning;
- k. Strict nature reserve is an area possessing some outstanding ecosystem, features and/or species of flora and fauna of national scientific importance maintained to protect nature and maintain processes in an undisturbed state in order to have ecologically representative examples of the natural environment available for scientific study, environmental monitoring, education, and for the maintenance of genetic resources in a dynamic and evolutionary state;
- l. Tenured migrant communities are communities within protected areas which have actually and continuously occupied such areas for five (5) years before the designation of the same as protected areas in accordance with this Act and are solely dependent therein for subsistence; and
- m. Wildlife sanctuary comprises an area which assures the natural conditions necessary to protect nationally significant species, groups of species, biotic communities or physical features of the environment where these may require specific human manipulation for the perpetuation.

Section 5

Establishment and Extent of the System

The establishment and operationalization of the System shall involve the following:

a. All areas or islands in the Philippines proclaimed, designated or set aside, pursuant to a law, presidential decree, presidential proclamation or executive order as national park, game refuge, bird and wildlife sanctuary, wilderness area, strict nature reserve, watershed, mangrove reserve, fish sanctuary, natural and historical landmark, protected and managed landscape/seascape as well as identified virgin forests before the effectivity of this Act are hereby designated as initial components of the System. The initial components of the System shall be governed by existing laws, rules and regulations, not inconsistent with this Act;

b. Within one (1) year from the effectivity of this Act, the DENR shall submit to the Senate and the House of Representatives a map and legal description or natural boundaries of each protected area initially comprising the System. Such maps and legal description shall, by virtue of this Act, constitute the official documentary representation of the entire System, subject to such changes as Congress deems necessary;

c. All DENR records pertaining to said protected areas, including maps and legal descriptions or natural boundaries, copies of rules and regulations governing them, copies of public notices of, and reports submitted to Congress regarding pending additions, eliminations, or modifications shall be made available to the public. These legal documents pertaining to protected areas shall also be available to the public in the respective DENR Regional Offices, Provincial Environment and Natural Resources Offices (PENROs) and Community Environment and Natural Resources Offices (CENROs) where NIPAS areas are located;

d. Within three (3) years from the effectivity of this Act, the DENR shall study and review each area tentatively composing the System as to its suitability or unsuitability for preservation as protected area and inclusion in the System according to the categories established in Section 3 hereof and report its finding to the President as soon as each study is completed. The study must include in each area:

1. A forest occupants survey;
2. An ethnographic study;
3. A protected area resource profile;
4. Land use plans done in coordination with the respective Regional Development Councils; and
5. Such other background studies as will be sufficient bases for selection.

The DENR shall:

1. Notify the public of the proposed action through publication in a newspaper of general circulation, and such other means as the System deems necessary in the area or areas in the vicinity of the affected land thirty (30) days prior to the public hearing;

2. Conduct public hearings at the locations nearest to the area affected;

3. At least thirty (30) days prior to the date of hearing advise all local government units (LGUs) in the affected areas, national agencies concerned, people's organizations and non-government organizations and invite such officials to submit their views on the proposed action at the hearing not later than thirty (30) days following the date of the hearing; and

4. Give due consideration to the recommendations at the public hearing; and provide sufficient explanation for his recommendations contrary to the general sentiments expressed in the public hearing;

e. Upon receipt of the recommendation of the DENR, the President shall issue a presidential proclamation designating the recommended areas as protected areas and providing for measures for their protection until such time when Congress shall have enacted a law finally declaring such recommended areas as part of the integrated protected area systems; and

f. Thereafter, the President shall send to the Senate and the House of Representatives his recommendations with respect to the designations as protected areas or reclassification of each area on which review has been completed, together with maps and legal description of boundaries. The President, in his recommendation, may propose the alteration of existing boundaries of any or all proclaimed protected areas, addition of any contiguous area of public land of predominant physical and biological value. Nothing contained herein shall limit the President to propose, as part of his recommendation to Congress, additional areas which have not been designated proclaimed or set aside by law, presidential decree, proclamation or executive order as protected area/s.

Section 6

Additional Areas to be Integrated to the System

Notwithstanding the establishment of the initial component of the System, the Secretary shall propose the inclusion in the System of additional areas with outstanding physical features, anthropological significance and biological diversity in accordance with the provisions of Section 5(d).

Section 7

Disestablishment as Protected Area

When in the opinion of the DENR a certain protected area should be withdrawn or disestablished, or its boundaries modified as warranted by a study and sanctioned by the majority of the members of the respective boards for the protected area as herein established in Section 11, it shall, in turn, advise Congress. Disestablishment of a protected area under the System or modification of its boundary shall take effect pursuant to an act of Congress. Thereafter, said area shall revert to the category of public forest unless otherwise classified by Congress: Provided, however, That after disestablishment by Congress, the Secretary may recommend the transfer of such disestablished area to other government agencies to serve other priority programs of national interest.

Section 8

Buffer Zones

For each protected area, there shall be established peripheral buffer zones when necessary, in the same manner as Congress establishes the protected area, to protect the same from activities that will directly and indirectly harm it. Such buffer zones shall be included in the individual protected area management plan that shall be prepared for each protected area. The DENR shall exercise its authority over protected areas as provided in this Act on such area designated as buffer zones.

Section 9

Management Plans

There shall be a general management planning strategy to serve as guide in formulating individual plans for each protected area. The management planning strategy shall, at the minimum, promote the adoption and implementation of innovative management techniques including, if necessary, the concept of zoning, buffer zone management for multiple use and protection, habitat conservation and rehabilitation, diversity management, community organizing, socioeconomic and scientific researches, site-specific policy development, pest management, and fire control. The management planning strategy shall also provide guidelines for the protection of indigenous cultural communities, other tenured migrant communities and sites and for close coordination between and among local agencies of the Government as well as private sector.

Each component area of the System shall be planned and administered to further protect and enhance the permanent preservation of its natural conditions. A management manual shall be formulated and developed which must contain the following: an individual management plan prepared by three (3) experts, basic background information, field inventory of the resources within the area, an assessment of assets and limitations, regional interrelationships, particular objectives for managing the area, appropriate division of the area into management zones, a review of the boundaries of the area, and a design of the management programs.

Section 10

Administration and Management of the System

The National Integrated Protected Area System is hereby placed under the control and administration of the

Department of Environment and Natural Resources. For this purpose, there is hereby created a division in the regional offices of the Department to be called the Protected Areas and Wildlife Division in regions where protected areas have been established, which shall be under the supervision of a Regional Technical Director, and shall include subordinate officers, clerks, and employees as may be proposed by the Secretary, duly approved by the Department of Budget and Management, and appropriated for by Congress. The Service thus established shall manage protected areas and promote the permanent preservation, to the greatest extent possible of their natural conditions.

To carry out the mandate of this Act, the Secretary of the DENR is empowered to perform any and all of the following acts:

- a. To conduct studies on various characteristic features and conditions of the different protected areas, using commonalities in their characteristics, classify and define them into categories and prescribe permissible or prohibited human activities in each category in the System;
- b. To adopt and enforce a land-use scheme and zoning plan in adjoining areas for the preservation and control of activities that may threaten the ecological balance in the protected areas;
- c. To cause the preparation of and exercise the power to review all plans and proposals for the management of protected areas;
- d. To promulgate rules and regulations necessary to carry out the provisions of this Act;
- e. To deputize field officers and delegate any of his powers under this Act and other laws to expedite its implementation and enforcement;
- f. To fix and prescribe reasonable NIPAS fees to be collected from government agencies or any person, firm or corporation deriving benefits from the protected areas;
- g. To exact administrative fees and fines as authorized in Section 21 for violations of guidelines, rules and regulations of this Act as would endanger the viability of protected areas;
- h. To enter into contracts and/or agreements with private entities or public agencies as may be necessary to carry out the purposes of this Act;
- i. To accept in the name of the Philippine Government and in behalf of NIPAS funds, gifts or bequests of money for immediate disbursement or other property in the interest of the NIPAS, its activities, or its services;
- j. To call on any agency or instrumentality of the Government as well as academic institutions, non-government organizations and the private sector as may be necessary to accomplish the objectives and activities of the System;
- k. To submit an annual report to the President of the Philippines and to Congress on the status of protected areas in the country;
- l. To establish a uniform marker for the System, including an appropriate and distinctive symbol for each category in the System, in consultation with appropriate government agencies and public and private organizations;
- m. To determine the specification of the class, type and style of building and other structures to be constructed in protected areas and the material to be used;
- o. Control the construction, operation and maintenance of roads, trails, waterworks, sewerage, fire protection, and sanitation systems and other public utilities within the protected area;
- p. Control occupancy of suitable portions of the protected area and resettle outside of said area forest occupants therein, with the exception of the members of indigenous communities area; and
- q. To perform such other functions as may be directed by the President of the Philippines, and to do such acts as may be necessary or incidental to the accomplishment of the purpose and objectives of the System.

Section 11

Protected Area Management Board

A Protected Area Management Board for each of the established protected area shall be created and shall be composed of the following: the Regional Executive Director under whose jurisdiction the protected area is located; one (1) representative from the autonomous regional government, if applicable; the Provincial Development Officer; one (1) representative from the municipal government; one (1) representative from each barangay covering the protected area; one (1) representative from each tribal community, if applicable; and, at least three (3) representatives from non-government organizations/local community organizations, and if necessary, one (1) representative from other departments or national government agencies involved in protected area management.

The Board shall, by a majority vote, decide the allocations for budget, approve proposals for funding, decide matters relating to planning, peripheral protection and general administration of the area in accordance with the general management strategy. The members of the Board shall serve for a term of five (5) years without compensation, except for actual and necessary traveling and subsistence expenses incurred in the performance of their duties. They shall be appointed by the Secretary of the DENR as follows:

- a. A member who shall be appointed to represent each local government down to barangay level whose territory or portion is included in the protected area. Each appointee shall be the person designated by the head of such LGU, except for the Provincial Development Officer who shall serve *ex officio*;
- b. A member from non-government organizations who shall be endorsed by heads of organizations which are preferably based in the area or which have established and recognized interest in protected areas;
- c. The RED/s in the region/s where such protected area lies shall sit as *ex officio* member of the Board and shall serve as adviser/s in matters related to the technical aspect of management of the area; and
- d. The RED shall act as chairman of the Board. When there are two (2) or more REDs in the Board, the secretary shall designate one (1) of them to be the Chairman. Vacancies shall be filled in the same manner as the original appointment.

Section 12

Environmental Impact Assessment

Proposals for activities which are outside the scope of the management plan for protected areas shall be subject to an environmental impact assessment as required by law before they are adopted, and the results thereof shall be taken into consideration in the decision-making process. No actual implementation of such activities shall be allowed without the required Environmental Compliance Certificate (ECC) under the Philippine Environment Impact Assessment (EIA) system. In instances where such activities are allowed to be undertaken, the proponent shall plan and carry them out in such manner as will minimize any adverse effects and take preventive and remedial action when appropriate. The proponent shall be liable for any damage due to lack of caution or indiscretion.

Section 13

Ancestral Lands and Rights Over Them

Ancestral lands and customary rights and interest arising shall be accorded due recognition. The DENR shall prescribe rules and regulations to govern ancestral lands within protected areas: Provided, That the DENR shall have no power to evict indigenous communities from their present occupancy nor resettle them to another area without their consent: Provide, however, That all rules and regulations, whether adversely affecting said communities or not, shall be subjected to notice and hearing to be participated in by members of concerned indigenous community.

Section 14

Survey of Energy Resources

Consistent with the policies declared in Section 2, hereof, protected areas, except strict nature reserves and natural parks, may be subjected to exploration only for the purpose of gathering information on energy resources and only if such activity is carried out with the least damage to surrounding areas. Surveys shall be conducted only in accordance with a program approved by the DENR, and the result of such surveys shall be made available to the

public and submitted to the President for recommendation to Congress. Any exploitation and utilization of energy resources found within NIPAS areas shall be allowed only through a law passed by Congress.

Section 15

Areas Under the Management of Other Departments and Government Instrumentalities

Should there be protected areas, or portions thereof, under the jurisdiction of government instrumentalities other than the DENR, such jurisdiction shall, prior to the passage of this Act, remain in the said department or government instrumentality; Provided, That the department or government instrumentality exercising administrative jurisdiction over said protected area or a portion thereof shall coordinate with the DENR in the preparation of its management plans, upon the effectivity of this Act.

Section 16

Integrated Protected Areas Fund

There is hereby established a trust fund to be known as Integrated Protected Areas (IPAS) Fund for purposes of financing projects of the System.

The IPAS may solicit and receive donations, endowments, and grants in the form of contributions, and such endowments shall be exempted from income or gift taxes and all other taxes, charges or fees imposed by the Government or any political subdivision or instrumentality thereof.

All incomes generated from the operation of the System or management of wild flora and fauna shall accrue to the Fund and may be utilized directly by the DENR for the above purpose. These incomes shall be derived from:

- a. Taxed from the permitted sale and export of flora and fauna and other resources from protected areas;
- b. Proceeds from lease of multiple-use areas;
- c. Contributions from industries and facilities directly benefiting from the protected area; and
- d. Such other fees and incomes derived from the operation of the protected area.

Disbursements from the Fund shall be made solely for the protection, maintenance, administration, and management of the System, and duly approved projects endorsed by the PAMBs, in the amounts authorized by the DENR.

Section 17

Annual Report to Congress

At the opening of each session of Congress, the DENR shall report to the President, for transmission to Congress, on the status of the System, regulation in force and other pertinent information, together with recommendations.

Section 18

Field Officers

All officials, technical personnel and forest guards employed in the integrated protected area service or all persons deputized by the DENR, upon recommendation of the Management Board shall be considered as field officers and shall have the authority to investigate and search premises and buildings and make arrests in accordance with the rules on criminal procedure for the violation of laws and regulations relating to protected areas. Persons arrested shall be brought to the nearest police precinct for investigation.

Nothing herein mentioned shall be construed as preventing regular enforcers and police officers from arresting any person in the act of violating said laws and regulations.

Section 19

Special Prosecutors

The Department of Justice shall designate special prosecutors to prosecute violations of laws, rules and regulations in protected areas.

Section 20

Prohibited Acts

Except as may be allowed by the nature of their categories and pursuant to rules and regulations governing the same, the following acts are prohibited within protected areas:

- a. Hunting, destroying, disturbing, or mere possession of any plants or animals or products derived therefrom without a permit from the Management Board;
- b. Dumping of any waste products detrimental to the protected area, or to the plants and animals or inhabitants therein;
- c. Use of any motorized equipment without a permit from the Management Board;
- d. Mutilating, defacing or destroying objects of natural beauty, or objects of interest to cultural communities (of scenic value);
- e. Damaging and leaving roads and trails in a damaged condition;
- f. Squatting, mineral locating, or otherwise occupying any land;
- g. Constructing or maintaining any kind of structure, fence or enclosures, conducting any business enterprise without a permit;
- h. Leaving in exposed or unsanitary conditions refuse or debris, or depositing in ground or in bodies of water; and
- i. Altering, removing destroying or defacing boundary marks or signs.

Section 21

Penalties

Whoever violates this Act or any rules and regulations issued by the Department pursuant to this Act or whoever is found guilty by a competent court of justice of any of the offenses in the preceding section shall be fined in the amount of not less than Five thousand pesos (P5,000) nor more than Five hundred thousand pesos (P500,000), exclusive of the value of the thing damaged or imprisonment for not less than one (1) year but not more than six (6) years, or both, as determined by the court: Provided, That, if the area requires rehabilitation or restoration as determined by the court, the offender shall also be required to restore or compensate for the restoration to the damage: Provided, further, That the court shall order the eviction of the offender from the land and the forfeiture in favor of the Government of all minerals, timber or any species collected or removed including all equipment, devices and firearms used in connection therewith, and any construction or improvement made thereon by the offender. If the offender is an association or corporation, the president or manager shall be directly responsible for the act of his employees and laborers: Provided, finally, That the DENR may impose administrative fines and penalties consistent with this Act.

Section 22

Separability Clause

If any part or section of this Act is declared unconstitutional, such declaration shall not affect the other parts or section of this Act.

Section 23

Repealing Clause

All laws, presidential decrees, executive orders, rules and regulations inconsistent with any provisions of this Act shall be deemed repealed or modified accordingly.

Section 24

Effectivity Clause

This Act shall take effect fifteen (15) days after its complete publication in two (2) newspapers of general circulation. *Approved: June 1, 1992*

Appendix 2

PARK VISITOR QUESTIONNAIRE –Wildlife Rescue and Rehabilitation Center

Name : _____

Age : _____ Gender : _____ M _____ F

Occupation : _____ Monthly Income : _____

Educational Attainment : _____

Residence : _____

1. How many times have you visited the Park including today?

2. How often do you visit the Park?

_____ Daily

_____ Once a week

_____ Once a month

_____ Once every two weeks

_____ Every pay day

_____ Only on special occasions/events

3. Do you visit any other Park? _____ Yes _____ No

4. If yes, which other Park? _____

5. How do you compare this Park with Quezon Memorial Circle? Why?

_____ Better _____

_____ Worse _____

_____ Same _____

_____ Cannot compare _____

6. Why did you choose to visit this Park?

REASON	DEGREE OF IMPORTANCE				
	5	4	3	2	1
(a) Wildlife appreciation	5	4	3	2	1
(b) Plant diversity	5	4	3	2	1
(c) Landscape/view	5	4	3	2	1
(d) Swimming	5	4	3	2	1
(e) Boating/Fishing	5	4	3	2	1
(f) Picnicking	5	4	3	2	1
(g) Tourist amenities	5	4	3	2	1
(h) Historical/ Cultural reasons	5	4	3	2	1
(i) Playground/Children's recreation	5	4	3	2	1
(j) Outdoor recreation	5	4	3	2	1
(k) Affordability	5	4	3	2	1
(l) Word of mouth	5	4	3	2	1
(m) Media information	5	4	3	2	1
(n) Proximity to residence	5	4	3	2	1
(o) Others	5	4	3	2	1
	5	4	3	2	1

5 = Extremely important
4 = Very important

3 = Important
2 = Less important

1 = Not applicable

7. What activities do you enjoy most/least within the Park?

ACTIVITY	DEGREE OF ENJOYMENT				
	5	4	3	2	1
(a) Camping	5	4	3	2	1
(b) Picnicking	5	4	3	2	1
(c) Outdoor recreation	5	4	3	2	1
(d) Swimming	5	4	3	2	1
(e) Boating/Fishing	5	4	3	2	1
(f) Sightseeing	5	4	3	2	1
(g) Wildlife appreciation	5	4	3	2	1
(h) Plant appreciation	5	4	3	2	1
(i) Studying	5	4	3	2	1
(j) Researching	5	4	3	2	1
(k) Filming / Photography	5	4	3	2	1
(l) Spiritual cleansing	5	4	3	2	1
(m) Jogging	5	4	3	2	1
(n) Special events	5	4	3	2	1
(o) Others	5	4	3	2	1

5 = Extremely enjoyable
4 = Very enjoyable

3 = Enjoyable
2 = Less enjoyable

1 = Not applicable

Appendix 3

PARK VISITOR QUESTIONNAIRE – Quezon Memorial Circle

Name : _____

Age : _____

Gender : _____ M _____ F

Occupation : _____ Monthly Income _____

Educational Attainment : _____

Residence : _____

1. How many times have you visited the Park including today?

2. How often do you visit the Park?

_____ Daily

_____ Once a week

_____ Once a month

_____ Once every two weeks

_____ Every pay day

_____ Only on special occasions/events

3. Do you visit any other Park? _____ Yes _____ No

4. If yes, which other Park?

5. How do you compare this Park with the Ninoy Aquino Parks and Wildlife Nature Center ? Why?

_____ Better _____

_____ Worse _____

_____ Same _____

_____ Cannot compare _____

6. Why did you choose to visit this Park?

REASON	DEGREE OF IMPORTANCE				
	5	4	3	2	1
(a) Exercise	5	4	3	2	1
(b) Plant diversity	5	4	3	2	1
(c) Landscape/view	5	4	3	2	1
(d) Picnicking	5	4	3	2	1
(e) Tourist amenities	5	4	3	2	1
(f) Historical/ Cultural reasons	5	4	3	2	1
(g) Playground/Children's recreation	5	4	3	2	1
(h) Outdoor recreation	5	4	3	2	1
(i) Relaxation	5	4	3	2	1
(j) Cycling	5	4	3	2	1
(k) Dancing	5	4	3	2	1
(l) Affordability	5	4	3	2	1
(m) Word of mouth	5	4	3	2	1
(n) Media information	5	4	3	2	1
(o) Proximity to residence	5	4	3	2	1
(p) Others	5	4	3	2	1

5 = Extremely important

4 = Very important

3 = Important

2 = Less important

1 = Not applicable

7. What activities do you enjoy most/least within the Park?

ACTIVITY	DEGREE OF ENJOYMENT				
	5	4	3	2	1
(a) Camping	5	4	3	2	1
(b) Picnicking	5	4	3	2	1
(c) Outdoor recreation	5	4	3	2	1
(d) Dancing	5	4	3	2	1
(e) Cycling	5	4	3	2	1
(f) Exercise	5	4	3	2	1
(g) Sightseeing	5	4	3	2	1
(h) Relaxation	5	4	3	2	1
(i) Plant appreciation	5	4	3	2	1
(j) Studying	5	4	3	2	1
(k) Researching	5	4	3	2	1
(l) Filming / Photography	5	4	3	2	1
(m) Spiritual cleansing	5	4	3	2	1
(n) Jogging	5	4	3	2	1
(o) Special events	5	4	3	2	1
(p) Others	5	4	3	2	1

5 = Extremely enjoyable

4 = Very enjoyable

3 = Enjoyable

2 = Less enjoyable

1 = Not applicable

Appendix 4

PARK MANAGEMENT QUESTIONNAIRE

Name : _____

Position : _____

Highest Educational Attainment : _____

Age : _____ Length of service : _____

1. Is there a management plan being followed for the Park?(If yes, ask for copy if available)
2. If yes, how is it being implemented?
3. What are the components of the plan?
4. Is there a budget set aside to implement the plan?
5. Who are involved?
6. Is visitor impact management part of this plan?
7. How effective is the plan being implemented?
8. What is the role of the Park in the city ?

9. **What are the impacts the Park create to the city?**
10. **What are the impacts of the surrounding area to the Park?**
11. **What else is needed to meet the goals and objectives set in the plan?**
12. **How much can the community get involved in implementing the plan?**
13. **Is the plan in consonance with the set criteria and guidelines set by local and international authorities?**
14. **Are people aware of the conservation efforts within the Park?**
15. **What are the future plans for the Park? Is there a budget allocated for them?**
16. **Who else can get involved? How do you encourage others to get involved?**
17. **To what extent will you allow others to get involved in managing the Park?**
18. **How do you deal with the threats that affect the Park?**
19. **Are Park staff encouraged to upgrade themselves and undergo training?**
20. **How can continuity of plans be assured for the Park?**

Appendix 5

Vegetative Cover at WRRC

COMMON NAME	SCIENTIFIC NAME	NUMBER OF TREES
1. Narra	<i>Pterocarpus indicus</i>	386
2. Mahogany	<i>Swietenia macrophylla</i>	336
3. Acacia	<i>Samanea samar.</i>	126
4. Gmelina	<i>Gmelina arborea</i>	225
5. Ear pod	<i>Enterolobium cyclocarpus</i>	66
6. Alibangbang	<i>Pileostigma malabaricum.</i>	166
7. Yello bell	<i>Allamanda sp.</i>	15
8. African tulip	<i>Spathodea campanulata</i>	10
9. Palosanto	<i>Triplaris cumingiana</i>	109
10. Banaba	<i>Lagerstroemia speciosa</i>	80
11. Kaatoan bangkal	<i>Anthrocephalus chinensis</i>	20
12. Ipil-ipil	<i>Leucanna leucocephalus</i>	39
13. Fire tree	<i>Delonix regia</i>	55
14. Octopus tree	<i>Brassaia actinophylla</i>	1
15. Molave	<i>Vitex parviflora</i>	32
16. Agoho	<i>Casuarina equisetifolia</i>	9
17. Kamachile	<i>Pithecellobium dulce</i>	3
18. Coconut	<i>Cocos nucifera</i>	16
19. Sampaloc	<i>Tamarindus indica</i>	11
20. Duhat	<i>Syzygium cumini</i>	14
21. Teak	<i>Tectona grandis</i>	11
22. Araucaria	<i>Araucaria sp.</i>	2
23. Mango	<i>Mangifera indica</i>	30
24. Talisai	<i>Terminalia catappa</i>	47
25. Powder puff	<i>Calliandra tergemina</i>	4
26. Kalachuchi	<i>Plumeria acuminata</i>	7
27. Balete	<i>Ficus balete</i>	16

Vegetative Cover at WRRC (page 2)

28. Guava	<i>Psidium guajava</i>	16
29. Dungon	<i>Tarrietia sylvatus</i>	1
30. Kaimito	<i>Chrysophyllum caimito</i>	13
31. Guayabano	<i>Annona muricata</i>	2
32. Kakawate	<i>Gliricidia sepium</i>	19
33. Lumbang	<i>Aleurites mollucana</i>	43
34. Weeping willow	<i>Salix babylonica</i>	93
35. Akle	<i>Serialbizia acle</i>	32
36. Kamagong	<i>Diospyros philipenensis</i>	1
37. Pugahan	<i>Caryota cumingii</i>	6
38. Santol	<i>Sandoricum koetjape</i>	6
39. Golden shower	<i>Cassia fistula</i>	4
40. Bottle brush	<i>Callistemom lanceolatus</i>	2
41. Kapok	<i>Ceiba petandra</i>	5
42. Mangium	<i>Acacia mangium</i>	23
43. Japanese acacia	<i>Acacia auriculiformis</i>	21
44. Dapdap	<i>Erythrina orientalis</i>	23
45. Botree	<i>Ficus religiosa</i>	7
46. Yellow bamboo	<i>Bambusa vulgaris striata</i>	90
47. green bamboo	<i>Dendrocalamus morillianus</i>	66
48. Nangka	<i>Artocarpus heterophylla</i>	10
49. Balitbitan	<i>Cynometra ramiflora</i>	2
50. Yucca	<i>Yucca alcifolia</i>	15
51. Balatbat bilog	<i>Licuala grandis</i>	2
52. Alagaw	<i>Premma odorata</i>	1
53. Wildberry	<i>Morus alba</i>	21
54. Chinese bamboo	<i>Bamboo glaucescens</i>	8
55. Indian tree		3

Vegetative Cover at WRRC (page 3)

56. Katmon	<i>Dillenia philippenensis</i>	1
57. Thailand shower	<i>Cassia siaman</i>	4
58. Is-is	<i>Ficus ulnifolia</i>	1
59. Lucban	<i>Citrus grandis</i>	1
60. Chico	<i>Manilara zapote</i>	3
61. Rubber tree	<i>Ficus sp.</i>	22
62. Bagras	<i>Eucalyptus deglupta</i>	19
63. Tibig	<i>Moraceae sp.</i>	4
64. Achuete	<i>Bix arellana</i>	24
65. Hawili	<i>Moraceae sp.</i>	9
66. Coffee	<i>Coffee arabica</i>	14
67. Palmera	<i>Chrysalidocarpus lutescens</i>	26
68. Aratilis		9
69. Botong	<i>Barringtonia asiatica</i>	4
70. Bunga de china	<i>Areca catechu</i>	29
71. Lettuce tree	<i>Livistonia rotundifolia</i>	2
72. Pitogo	<i>Cycas circinalis</i>	7
73. Neem tree	<i>Azadirachta indica</i>	18
74. Anahao	<i>Livistonia rotunfidolia</i>	1
75. Macarthur palm	<i>palmae sp.</i>	30
76. Kalamias	<i>Averoa balimbi</i>	5
77. Avocado	<i>Persea americana</i>	2
78. Dita	<i>Alstonia scholaris</i>	6
79. Royal palm	<i>Pheystonia clata</i>	8
Total		2620

Source: PAWB, 1998b

Appendix 6

List of Fauna found at WRRC

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
I. Birds (on display enclosure)		
1. White breasted sea eagle	<i>Haliaeetus leucogaster</i>	9
2. Purple heron	<i>Ardea purpurea</i>	2
3. Gray heron	<i>Ardea cinerea</i>	1
4. Rufous night heron	<i>Nycticorax caledonicus</i>	5
5. Small egret	<i>Egretta garzetta</i>	1
6. Intermediate egret	<i>Egretta intermedia</i>	1
7. Gray imperial pigeon	<i>Ducula pickeringii</i>	2
8. Blue naped parrot	<i>Tanygnathus lucionensis</i>	10
9. Spotted dove	<i>Streptopelia chinensis</i>	5
10. Red sided eclectus	<i>Eclectus roratus</i>	5
11. Philippine eagle/hawk owl	<i>Ninox scutulata</i>	3
12. Palawan talking myna	<i>Gracula religiosa</i>	4
13. Philippine serpent eagle	<i>Spilornis holospilus</i>	8
14. Bleeding heart pigeon	<i>Gallicolumba luzonica</i>	2
15. Rufuos hornbill	<i>Buceros hydrocorax</i>	3
16. Rose ringed parakeet (exotic)	<i>Psittacula krameri</i>	16
17. Brahminy kite	<i>Haliastur indus</i>	29
18. Jungle fowl	<i>Gallus gallus</i>	2
19. Indonesian hornbill		1
20. White cockatoo	<i>Cacatua alba</i>	10
21. Lesser sulphur crested cockatoo	<i>Cacatua sulphurea</i>	4
22. Red-vented cockatoo	<i>cacatua haematuropygia</i>	2

List of Fauna found at WRRRC (page 2)

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
I. Birds (on display enclosure)		
23. African grey parrot	<i>Psittacus erithacus</i>	7
24. Orange winged amazon	<i>Amazona amazonica</i>	7
25. Philippine hawl eagle	<i>Spizaetus philippensis</i>	1
26. Indian peacock	<i>Pavo cristatus</i>	3
27. Changeable hawk eagle	<i>Spizaetus cirrhatus</i>	2
28. Zebra dove	<i>Geopelia striata</i>	27
29. Dwarf turtle dove	<i>Streptopelia tranquebarica</i>	5
Total:		177

List of Fauna found at WRRC (page 3)

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
II. Birds (Isolation/Rehabilitation/Quarantine)		
1. Rainbow lory	<i>Trichoglossus haematodus</i>	3
2. Palawan talking myna	<i>Gracula religiosa</i>	7
3. Hanging parrot	<i>Loriculus philippensis</i>	5
4. White breasted sea eagle	<i>Haliaeetus leucogaster</i>	7
5. Tarictic hornbill	<i>Penelopides panini</i>	3
6. Coleto	<i>Sarcops calvus</i>	1
7. Rufuos night heron	<i>Nycticorax caledonicus</i>	5
8. Green wing dove	<i>Chalcophaps indica</i>	38
9. Red and blue lory	<i>Eos histrio</i>	12
10. Brahminy kite	<i>Haliastur indus</i>	41
11. Purple heron	<i>Ardea purpurea</i>	1
12. Scops owl	<i>Otus megalotis</i>	3
13. Giant scops owl	<i>Mimizuku gurneyi</i>	1
14. Rose ringed parakeet	<i>Psittacula karameri</i>	7
15. Black capped lory	<i>Lorius lory</i>	2
16. Chattering lory	<i>Lorius garrulus</i>	7
17. Red billed parrot	<i>Pionus sordidus</i>	1
18. Black masks parakeet		2
19. Cockatiel	<i>Nymphicus hollandicus</i>	10
20. Red shouldered macaw	<i>Ara roboris</i>	3
21. Large billed parrot	<i>Tanygnathus megalorynchos</i>	2
22. Black crowned night heron	<i>Nycticorax nycticorax</i>	2

List of Fauna found at WRRC (page 4)

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
II. Birds (Isolation/Rehabilitation/Quarantine)		
23. White cockatoo	<i>cacatua alba</i>	2
24. White tailed sea eagle		1
25. Hawk eagle	<i>Spizaetus spp.</i>	1
26. Philippine serpent eagle	<i>Spilornis holospilus</i>	2
27. Zebra dove	<i>Geopelia striata</i>	1
28. Spotted dove	<i>Streptopelia chinensis</i>	1
29. Blue naped parrot	<i>Tanygnathus lucionensis</i>	2
30. Dusky lory		1
31. Crested myna	<i>Acedotheres cristatellus</i>	3
32. Philippine eagle owl	<i>Ninox scatulata</i>	1
33. Pompadour pigeon	<i>Treton pompadora</i>	1
34. Stender billed cuckoo dove	<i>Macropygia phasianella</i>	1
35. Grass owl	<i>Tyto capensis</i>	2
36. Koel	<i>Eudenamys scolopacea</i>	1
37. Gray imperial pigeon	<i>Ducela pickeringi</i>	1
Total		184

List of Fauna found at WRRC (page 5)

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
III. Reptiles (Isolation/Rehabilitation/Quarantine)		
1. Indian python (exotic)	<i>Python molorus</i>	2
2. Reticulated python	<i>Python reticulatus</i>	7
3. Boa constrictor	<i>Boa constrictor</i>	4
4. Ball python		2
5. Common iguana	<i>Iguana iguana</i>	19
6. Sailfin lizard	<i>Hydrosaurus postulosus</i>	14
7. Albino burmese python		1
8. Philippine cobra	<i>Naja naja</i>	1
9. Soft shelled turtle	<i>Trionyx sp.</i>	1
10. Tegu	<i>Tupinambis teguixin</i>	2
11. Plated lizard	<i>Gerrhosaurus sp.</i>	3
12. Savanna monitor lizard	<i>Varanus exanthematicus</i>	1
13. Yellow anaconda	<i>Eunectes notaeus</i>	2
14. Giant velvet gaecko	<i>Oedura sp.</i>	1
15. Spiny tailed agamid	<i>Uromastix aspera</i>	1
16. Pacific Island boa	<i>Candoia aspera</i>	1
17. Pacific Island boa	<i>Candoia sp.</i>	1
18. Monitor lizard	<i>Varanus Salvator</i>	1
19. Indian star turtle		2
20. Dog faced water snake	<i>Hurria rynchops</i>	1
21. Arboreal rat snake	<i>Gonyosoma oxycephalia</i>	1
22. Corn snake		2
23. West African gaboon viper		1
Total		71

List of Fauna found at WRRC (page 6)

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
IV. Reptiles (on display enclosure)		
1. Indian python (exotic)	<i>Python molurus</i>	3
2. Freshwater crocodile	<i>Crocodylus mindorensis</i>	3
3. Common iguana	<i>Iguana iguana</i>	5
4. Red-eared slider (exotic)	<i>Chrysemis (Trachemys) scripta</i>	28
5. Monitor lizard	<i>Varanus salvator</i>	3
6. Asian box turtle	<i>Cuora amboinensis</i>	255
7. Caiman crocodile	<i>Caiman crocodylus</i>	1
8. Reticulated python	<i>Python reticulatus</i>	3
Total		301

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
V. Mammals (Isolation/Rehabilitation/Quarantine)		
1. Philippine monkey	<i>Macaca fascicularis</i>	37
2. Patas monkey	<i>Erythrocebus patas</i>	1
3. Vervet monkey	<i>Cercopithecus aethiops</i>	3
4. Yellow baboon	<i>Papio cynocephalus</i>	1
5. Prevostii squirrel		2
Total		44

List of Fauna found at WRRC (page 7)

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
VI. Mammals (on display enclosure)		
1. Palawan bear cat	<i>Artictis binturong</i>	2
2. Philippine civet cat	<i>Paradoxurus hermaphroditus</i>	6
3. Palawan beared pig	<i>Sus barbatus</i>	1
4. Philippine deer	<i>Cervus marianus</i>	6
5. Fallow deer (exotic)	<i>Dama dama</i>	2
6. Philippine monkey	<i>Macaca fascicularis</i>	36
7. White handed gibbon	<i>Hylobates lar</i>	1
8. Cloud rat	<i>Phloemys pallidus</i>	1
9. Northern Palawan lesser tree squirrel	<i>Calloscilurus sp.</i>	3
Total		58

SPECIES	SCIENTIFIC NAME	NUMBER OF ANIMALS
VII. Arthropods (Isolation/Rehabilitation/Quarantine)		
1. Choco millipede		1
2. Tarantula		2
Total		3

Summary as of December 18, 1997 :

I. On display enclosure	Number of Animals
29 species of birds	177
8 species of reptiles	301
9 species of mammals	58

Total of 536 animals of 46 species

II. In isolation/rehabilitation/quarantine	
37 species of birds	184
23 species of reptiles	71
5 species of mammals	43
2 species of arthropods	3

Total of 301 animals of 67 species

Source : Wildlife Rescue Center, 1998

Fauna

Appendix 7

MALACAÑANG
Manila

REPUBLIC OF THE PHILIPPINES

PROCLAMATION NO. 312

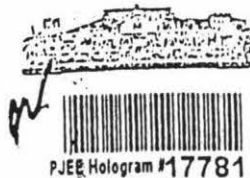
DISESTABLISHING THE NINOY AQUINO PARKS AND WILDLIFE NATURE CENTER SITUATED IN QUEZON CITY, METRO MANILA AS PROTECTED AREA AND SHALL BE KNOWN AS DENR WILDLIFE RESCUE AND REHABILITATION CENTER

Upon the recommendation of the Secretary of Environment and Natural Resources and pursuant to the powers vested upon me by law, I, JOSEPH EJERCITO ESTRADA, President of the Philippines, do hereby disestablish the Ninoy Aquino Parks and Wildlife Nature Center and hereby proclaim the area covered thereby as the DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WILDLIFE RESCUE AND REHABILITATION CENTER.

TECHNICAL DESCRIPTIONS

The DENR Wildlife Rescue and Rehabilitation Center begins at point marked "1" on the map with bearing S 31° 00'E, 3.21 m. from _____.

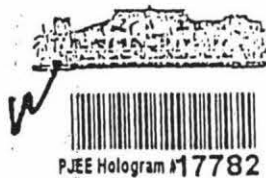
Thence	N. 60°00'E.	56.06 meters	to corner 2;
Thence	N. 57°00'E.	34.00 meters	to corner 3;
Thence	N. 52°00'E.	3.95 meters	to corner 4;
Thence	N. 43°00'E.	3.67 meters	to corner 5;
Thence	N. 39°00'E.	7.33 meters	to corner 6;
Thence	N. 36°00'E.	7.40 meters	to corner 7;
Thence	N. 31°00'E.	7.40 meters	to corner 8;
Thence	N. 23°00'E.	11.20 meters	to corner 9;
Thence	N. 15°00'E.	4.10 meters	to corner 10;
Thence	N. 8°00'E.	7.33 meters	to corner 11;
Thence	N. 6°00'E.	7.23 meters	to corner 12;
Thence	N. 00°00'W.	3.95 meters	to corner 13;
Thence	N. 6°00'W.	3.85 meters	to corner 14;
Thence	N. 13°00'W.	11.15 meters	to corner 15;
Thence	N. 19°00'W.	36.30 meters	to corner 16;



Thence	N. 17°00'W.	21.60 meters	to corner 17;
Thence	N. 10°00'W.	51.20 meters	to corner 18;
Thence	N. 34°00'W.	18.40 meters	to corner 19;
Thence	N. 39°00'W.	22.00 meters	to corner 20;
Thence	N. 45°00'W.	10.95 meters	to corner 21;
Thence	N. 53°00'W.	10.85 meters	to corner 22;
Thence	N. 59°00'W.	10.92 meters	to corner 23;
Thence	N. 63°00'W.	7.74 meters	to corner 24;
Thence	N. 75°00'W.	59.60 meters	to corner 25;
Thence	N. 75°00'W.	149.00 meters	to corner 26;
Thence	N. 75°00'W.	205.00 meters	to corner 27;
Thence	N. 75°00'W.	53.95 meters	to corner 28;
Thence	N. 75°00'W.	145.00 meters	to corner 29;
Thence	N. 75°00'W.	142.00 meters	to corner 30;
Thence	S. 03°00'E.	105.20 meters	to corner 31;
Thence	S. 71°00'E.	105.00 meters	to corner 32;
Thence	S. 05°00'E.	82.31 meters	to corner 33;
Thence	N. 84°00'E.	128.06 meters	to corner 34;
Thence	S. 17°00'E.	247.50 meters	to corner 35;
Thence	S. 78°00'W.	254.00 meters	to corner 36;
Thence	S. 19°00'E.	118.50 meters	to corner 37;
Thence	S. 22°00'E.	100.00 meters	to corner 38;
Thence	S. 23°00'E.	95.15 meters	to corner 39;
Thence	N. 60°00'E.	93.55 meters	to corner 40;
Thence	N. 60°00'E.	112.25 meters	to corner 41;
Thence	N. 26°00'W.	10.30 meters	to corner 42;
Thence	N. 60°00'E.	123.50 meters	to corner 43;
Thence	N. 60°00'E.	266.85 meters	to corner 44;
Thence	N. 60°00'E.	18.50 meters	to point of

beginning, containing an area of **TWENTY FOUR (24) HECTARES**, more or less subject to actual ground survey.

The above-mentioned areas shall be under the administrative jurisdiction of the Department of Environment and Natural Resources.



IN WITNESS WHEREOF, I have hereto set my hand and caused the seal of Republic of the Philippines to be affixed.

Done in the City of Manila, this 25th day of May, in the year of Our Lord two thousand.



A large, stylized handwritten signature in black ink, likely belonging to the President.

By the President :

A smaller handwritten signature in black ink, likely belonging to Ronaldo B. Zamora.

RONALDO B. ZAMORA
Executive Secretary

Appendix 8

TRI-PARTITE MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This agreement made and entered into this FEB 28 1989 day of _____, 1989, in the City of Manila, Philippines, by and among:

The National Historical Institute, a government agency created by law with postal address at the National Library Building T.M. Kalaw St., Ermita, Manila, herein represented by its Chairman SERAFIN D. QUIASON; and,

The National Parks Development Committee, a government agency created by law with postal address at Rizal Park, Manila, herein represented by its Acting Chairman NARZALINA Z. LIM and

The government of Quezon City represented by Mayor BRIGIDO R. SIMON, JR., of legal age, Filipino, and with office address at Quezon City Hall, Diliman, Quezon City.

WITNESSETH: that,

WHEREAS, by virtue of the provisions of various Executive Orders, Proclamations, Presidential Decree, and Memorandum of Agreement, the development and maintenance of the Quezon Memorial Circle as a National Monument and a public park had been made the responsibility of the National Historical Institute, the National Parks Development Committee and Government of Quezon City;

WHEREAS, the above-named agencies in fulfillment of its responsibilities as mandated by law had initiated certain individual projects or works within Quezon Memorial Circle;

WHEREAS, although the parties are united in one goal and have always acted in concert, piecemeal projects within the Circle which were undertaken individually by just one of the parties had proven ineffective and not contributory to the rapid development and immediate completion of the Quezon Memorial Circle Project;

WHEREAS, the Government of Quezon City, desirous of making the circle a major attraction in Quezon City, had manifested its willingness to act as the lead agency completing the project, and it had in fact caused the creation of the Quezon City Parks Development Foundation, Inc. which will serve as its implementing arm in the development of the Quezon Memorial Circle;

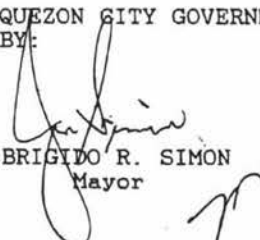
Now, therefore, the parties hereby agree to cooperate with each other in the realization of this project under the following terms and conditions:

1. That there shall be a Master Plan for the development of the Quezon Memorial Circle into a Historical Monument and a Public Park which had been previously approved by all the parties.

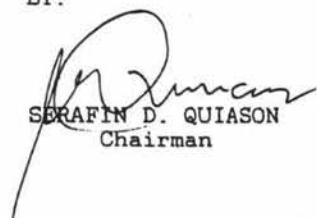
2. That the Government of Quezon City shall be solely responsible for the faithful execution of the said Master Plan but the National Parks Development Committee (NPDC) and the National Historical Institute (NHI) reserve the right to monitor all the developmental works being done to ensure that there are no substantial deviation from the same. All changes in the Master Plan shall be subject to the approval of the National Historical Institute (NHI) and National Parks Development Committee (NPDC).
3. That the Government of Quezon City shall be responsible for the maintenance and the electrical consumption of the proposed dynamic lighting and the operation of the elevator at the Quezon Memorial Shrine.
4. That in order to comply with its responsibilities under this Agreement, the Government of Quezon City can make use of or act thru the Quezon City Parks Development Foundation, Inc. or any other instrumentality it may choose.
5. That all funds raised by the Quezon City Parks Development Foundation, Inc. shall be managed by the said Foundation.
6. That upon completion of the Quezon Memorial Circle in accordance with the approved Master Plan, the said Circle shall be under the administration and management of the Quezon City Government thru the Foundation.
7. That the National Historical Institute shall retain control, management, supervision and maintenance over the Quezon Mausoleum and Monument (Pylon) and its immediate surroundings. And the funding of the services shall be its responsibilities.

IN WITNESS WHEREOF, the parties herein have affixed their conformity through their own representatives this FEB 28 1989 day of _____, 1989, at Manila, Philippines.

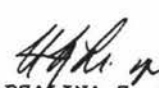
QUEZON CITY GOVERNMENT
BY:


BRIGIDO R. SIMON
Mayor

NATIONAL HISTORICAL INSTITUTE
BY:


SERAFIN D. QUIASON
Chairman

NATIONAL PARKS DEVELOPMENT COMMITTEE
BY:


NARZALINA Z. LIM
Acting Chairman

A C K N O W L E D G M E N T

Republic of the Philippines)
City of **QUEZON CITY**) S.S

BEFORE ME, a notary Public FEB 28 1989 and in above jurisdiction, this _____ of _____, 1989, personally appeared the following:

<u>NAME</u>	<u>RES. CERT. NO.</u>	<u>DATE & PLACE OF ISSUE</u>
NARZALINA Z. LIM	2172362-H	March 1, 1989 - Manila
SERAFIN D. QUIASON	07634009-J	February 23, 1989 - Manila
BRIGIDO R. SIMON, JR.	01250000	January 9, 1989, - Quezon City

all known to me and known to be the same persons who executed the foregoing instrument and their acknowledge to me that the same is their free and voluntary act and deed as well as of the government agencies represented herein.

I hereby certify that the foregoing TRI-PARTITE MEMORANDUM OF AGREEMENT consists of three (3) typewritten pages, including this page wherein this acknowledgment is written, and signed by the parties and their instrumental witnesses on each and every page thereof.

WITNESS MY HAND AND SEAL, on the date and place first above written.

Doc. No. 128 ;
Page No. 27 ;
Book No. TL ;
Series of 1989

ATTY. CHRISTIAN B. VALENCIA
NOTARY PUBLIC
UNTIL DEC 31 1989
PTR NO. 57331-
1-8-89 - C.C.

Appendix 9 : Summary of Park Management Interviews - Quezon Memorial Circle

Respondent	Position	Length of Service (years)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1 Manuel Saronicman	Foreman	9	None	NA	NA	Yes	QCPDFI	NA	NA	balance ecology	1. Fresh atmosphere/beauty 2. Keep natural environment near people	create more concern for the beauty of nature
2 Rhodora Semeno	OIC-QM Shrine	19	NA	by the MOA	NA	NA	NA	Yes	NA	recreational/leisure	now more for commercial means and not as lining memorial to a past president	use area as venue for official functions
3 Arnel Bangue	Architect III	3	Yes at Nat'l level	Not well implemented	1. Tree planting 2. Involvement of Sectoral community	NA	National LGU NGO	Do not know	Not effective	breathing space for city barrier for pollution	1. More attractive 2. Makes land more expensive within park vicinity	congestion due to massive migration and rapid urbanization
4 Mary Ann Tecson	Architect III	4	None	NA	NA	Yes	LGU	No	NA	place where people can gather	place for relaxation and safe recreation for children	people who live nearby are direct users of the park
5 Edna Castillo	Special Operations Officer IV	11	None	NA	NA	Yes	City personnel	No	NA	sustain city's vigorous development through open space	a place for meditation and exercise	
6 Enrique Avancena	Board Member QCPDFI	5	Yes	Not implemented according to the Plan	Laid out by Arch. Manosa but more on physical aspect	Yes	QC NHI QCPDFI	No	spur of the moment by the iron hand of Atty. Planas	serve as living memorial to a past president	gives historical sense provides a venue for peace and recreation	Park has become highly commercialized
7 Charito Planas	President/Chair QCPDFI	10	Yes as commissioned to Arch. Manosa	plan totally not implemented any more	projects now done according to need as perceived	Yes	QC NHI QCPDFI	No	do not believe in having a management or development plan	a living park	1. People of all walks of life are free to recreate and do their own thing 2. Serve as an example	Park has become highly commercialized

Appendix 10 : Summary of Park Management Interviews - Wildlife Rescue and Rehabilitation Center

Respondent	Position	Length of Service (years)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1 Melchor Bangoil	Engineer II	15	Yes	Revisions are made through policies by park superintendent	1. Organizational 2. Functional 3. Projects	Yes	Nat'l PAWB NRDC	No	Not effective since plans are not followed	A place for nature	Green Cool air	Unpleasant view because of shanties Water pollution
2 Rizza Araceli Fernandez	Veterinarian I	3	NA	NA	NA	NA	NA	NA	NA	Recreation facility	Provide a green place within the heart of the city	NA
3 Dely Rubio	EMS II	16	Yes	By phases	Key management Site management Activities	Yes	PAWB Consultants	Ideally	Not implemented	Buffer from jungle city Relief from buzz	Bridges the city through the greenery	Source of livelihood to residents
4 Priscilla Calimag	Chief, EMS	30	Yes	Coordination with NRDC	1. Physical dev't 2. Nature recreation and extension dev't	Yes	NRDC PAWB	No idea	No comment	Provide nature recreation opportunity to public	Provide information about nature and wildlife	Increasing illegal settlements
5 Jesus Domingo	Park Director	6 months	Maybe, have not seen a copy	Through park management staff	NA	Yes	Park mgt NRDC	Maybe not	No study done yet	As a tourism area	Provide tourism and recreation options to city dwellers	Crams park space/not enough space to expand Noise
6 Theresa Mundita Lim	Assistant Director, PAWB	3	Yes	New plan being done by phases	Mini Zoo Tourism dev't. area	Yes	PAWB NRDC	Was not considered	Depends on funds generated by NRDC	As a wildlife rescue center	Only park that showcases wildlife conservation and rescue	Space not big enough/ideal to set up mini zoo

Appendix 9 : Summary of Park Management Interviews - Quezon Memorial Circle (page 2)

Respondent	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1 Manuel Saronicman	1.proper implementation 2.funding projection 3.more regulation	1. Ask for comments and suggestions 2. Coordination	NA	Some	NA	Youth	NA	NA	NA	NA
2 Rhodora Semeno	cooperation/support from the public and NGOs	NA	should be	lack proper/sufficient information and discipline	NA	Private companies Civic organizations	NA	NA	NA	NA
3 Ameil Bangue	1. More government support especially in funding 2. More information dissemination	1. Set up information campaign 2. Self-monitoring	Yes	Not so much	NA	Industrial sector	NA	1. Encouraging policy makers to strengthen bills/laws in protecting the park 2. Strict monitoring	NA	political will of incumbent officials
4 Mary Ann Tecson	1. Budget 2. Political will	1. Education campaign 2. Direct participation in projects and activities	Yes	Some but not those living in depressed areas		NGOs Youth	Depends on capabilities	be more cautious	Yes	give 100% of allocated budget
5 Edna Castillo	Budget	Participate in programs	Yes	No		Students Civic clubs	As much as they can help	As if nothing happens	Yes	give 100% budget
6 Enrique Avancena	1. Experts on the field of urban park management 2. Change of park management	1. Encourage public to be more aware of park's role 2. Allow community to have an active role in planning and managing the park	Not now	No	cannot make future plans as planning is dictated by current chair and president	students concerned citizens	plans for changes in the park should always be in consultation with the public/community	be more conscious of them	No	hire knowledgeable people
7 Charito Planas	generate income so that other projects within the park can be done	Board members serve as voice of community	Not aware of such	No	Seminar center for old and disabled Seminars from health practitioners	QCPDFI run the park very well so do not need others to get involved		what threats? Only those gangs and criminals need to be dealt with	do not believe in hiring people with degrees, personnel learn by experience	by the vote of the Board

Appendix 10 : Summary of Park Management Interviews - Wildlife Rescue and Rehabilitation Center (page 2)

Respondent	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1 Mekhor Bangaol	1. Additional funding 2. Cooperation	Avoiding unpleasant view	Yes	Not everybody	Creation of foundation to run the park	Everybody Hold regular meetings	Open	1. Request assistance to deal with criminal elements 2. Create/organize group to solve threats	Not everybody	By law
2 Rizza Araceli Fernandez	NA	NA	NA	No	Mini zoo	Everybody Let people be aware of plans and how they can help	Allow volunteers and donors	NA	Yes	Availability of funds
3 Dely Rubio	Decisiveness in implementing goals and objectives	Planning stage Consultation	Yes	If there will be an information campaign	Relocate squatters	Other government agencies/meetings	Planning Implementation	1. Information campaign 2. Have security measures	Yes, but normally park superintendent gets training	Have permanent staff to to job
4 Priscilla Calimag	Appropriate development	Proper observance of park rules and regulations	Maybe locally	Yes	Wildlife museum	NGOs	Can't say/determine now because of new management	Get attention of park management to deal with threats	Yes	1.Budget assurance 2. Management approval
5 Jesus Domingo	Appropriations Qualified staff	There is a foundation already involved to generate additional funding for park development	Should be	No idea	Mini Zoo Training Center Visitor Center Hostel Research Center	There are already too many players involved having power struggle	Set up new management first ad see results	See how new plans and management can handle them	Will have totally ne staff when park management is set	Yet to deal with the concept
6 Theresa Mundita Lim	Proper funding Enough park staff who are well trained/knowledgeable	Through the foundation and NGOs	Yes	Not so much	To develop the park as a tourism area but in consonance with conservation efforts	Will not entertain now because of new set up	NA	Have proper research to deal with threats	Yes	Main concern is to ensure efforts are continued even with change of admin

Appendix 11

**PROTECTED AREA SUITABILITY ASSESSMENT (PASA)
(RATING SHEET/CONCLUSION/RECOMMENDATION)**

NAME OF PROTECTED AREA : _____ DATE _____

1. RATING	CRITERIA	R A T I N G					REASON(S) FOR RATING SCORE
		1	2	3	4	5	
A. Natural Properties							
	REPRESENTATIVENESS : Exemplification of habitat types within the biogeographic zones.			x			The location of the NAPWNC assures the natural forest setting to enhance existing recreational facilities, amenities and landscaping.
	NATURALNESS : Intactness of environment from human development activities, with at least 60% intact for excellent rating; 50%, good; 40%, fair and below 40%, poor/very poor.			x			It has a portion of land occupied by the squatters.
	ABUNDANCE : Presence and no. of individual per species of flora and fauna in the site.			x			The NAPWNC has a total of 2,652 individual per species of flora and 926 individual per species of fauna.
	DIVERSITY : Presence and number of flora, fauna in the site.			x			The NAPWNC is a habitat of flora and fauna some of which are already considered rare and endangered species.
B. Management Attributes							
	SOCIO-ECONOMIC ACCEPTABILITY : Attitude of local community towards protected area management.			x			There are some squatters whose livelihood is dependent on agricultural activities in the area. However, they have expressed their support of its inclusion to the NIPAS as long they will be recognize.
	ACCESSIBILITY : Access to the area for recreational, educational, scientific, management and livelihood activities.				x		The parks is accessible by all means of land transportation.
	SIZE : Sufficiency in size to allow management and administrative purposes & compatible uses as a protected area.			x			The NAPWNC has a total of 26 has. which is enough to administered and manage a protected area within the metropolis.
	IMPORTANCE : Value of area in terms of scientific, educational, recreational and other purposes.			x			The only existing Nature Center within the heart of metropolis, valuable in terms of scientific, educational, recreation, sighting and other functions.
T O T A L							

Note : RATING SCALE 1 (Very Poor), 2 (Poor), 3 (Fair), 4 (Good), 5 (Excellent)
For items a and b, average rating is 3.


PROTECTED AREA SUITABILITY ASSESSMENT (PASA)
(RATING SHEET/CONCLUSION/RECOMMENDATION)


NAME OF PROTECTED AREA

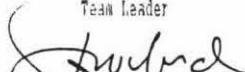
C. OTHER CRITERIA	ABSENT	PRESENT	DETAILS (if present)
UNIQUENESS : Presence of rare threatened/ endangered; indigenous and endemic species or unusual geological/archeological features.		x	Presence of rare forest trees and spring in the lagoon.
CRITICALNESS : Dependency of important flora and fauna on the area for certain life stages of entire life histories.		x	They are dependent with each other.
THREATS : Existing potential habitat destruction/disturbances from human activities in the area.		x	Presence of the illegal occupant and the development of the area such as the construction of concrete offices.
TRADITIONAL USES : Cultural importance of the area to the ICC including practices beliefs and traditions.	x		No ICC in the area.

2. CONCLUSION/RECOMMENDATION: The NAPWNC serves as the only open space that is large enough to cater to the recreational needs of the residents of Metro Manila and neighboring provinces. It provides fulfillment of their aesthetics needs in terms of direct interaction with nature and also caters to their educational needs and other functions. Park is the only nature area within the metropolis that strives to conserve biodiversity in the midst of the urban environment. It is therefore imperative to keep the status of the park as a protected area under the National Integrated Areas System.

ACCOMPLISHED BY :



MELCHOR Q. BANCALIL
Team leader


CONCORDIA D. GONZALVO
Asst. Team Leader


JONAS P. ABAD
Member


JESSE L. CASPO
Member

ATTESTED BY:


RONULO O. DEL MUNDO
Acting Park Superintendent

CONCURRED BY:

WILFRIDO S. POLLISCO
Director

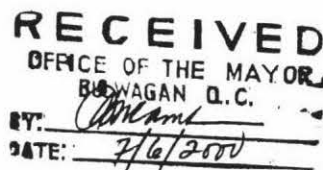
Appendix 12



School of Resource &
Environmental Planning
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5689

July 3, 2000

Enrique Quezon Avancena
Director
Quezon City Parks Development Foundation, Inc.



Attention : Ms. Lolita C. Amores
Parks Administrator

Sir/Madam:

Greetings from the School of Resource and Environmental Planning
at Massey University, New Zealand!

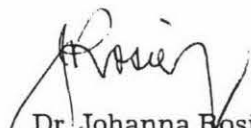
This is to introduce Ms. MARIA THERESA SALVACION MALING-EMANA, our post-graduate student who is currently undertaking research on urban park management and environmental conservation for her master's thesis. Ms. Emana works for the Office of the Assistant Secretary for Planning and Policy, Department of Environment and Natural Resources (DENR).

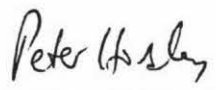
One of the sites she has chosen in the conduct of her research is the Quezon Memorial Circle (QMC) which is under your supervision.

We will greatly appreciate the assistance you can extend to her to complete her field research and survey.

Best regards.

Very truly yours,


Dr. Johanna Rosier
Thesis Supervisor


Mr. Peter G. Horsley
Thesis Supervisor

Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey



Massey University

COLLEGE OF HUMANITIES & SOCIAL SCIENCES

School of Resource &
Environmental Planning
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5689

July 3, 2000

Atty. Charito L. Planas
President
Quezon City Parks Development Foundation, Inc.

Attention : Ms. Lolita C. Amores
Parks Administrator

Madam :

Greetings from the School of Resource and Environmental Planning
at Massey University, New Zealand!

This is to introduce Ms. MARIA THERESA SALVACION MALING-EMANA, our post-graduate student who is currently undertaking research on urban park management and environmental conservation for her master's thesis. Ms. Emana works for the Office of the Assistant Secretary for Planning and Policy, Department of Environment and Natural Resources (DENR).

One of the sites she has chosen in the conduct of her research is the Quezon Memorial Circle (QMC) which is under your supervision.

We will greatly appreciate the assistance you can extend to her to complete her field research and survey.

Best regards.

Very truly yours,

Dr. Johanna Rosier
Thesis Supervisor

Mr. Peter G. Horsley
Thesis Supervisor

*Received By
Ferdie
7-6-00*

Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey

July 3, 2000

DR. MANUEL S. ALBA
City Administrator
Quezon City, Philippines

Sir/Madam,

Greetings from the School of Resource and Environmental Planning at Massey University, New Zealand!

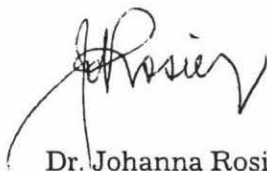
This is to introduce Ms. MARIA THERESA SALVACION MALING-EMANA, our post-graduate student who is currently undertaking research on urban park management and environmental conservation for her master's thesis. Ms. Emana works for the Office of the Assistant Secretary for Planning and Policy, Department of Environment and Natural Resources (DENR).

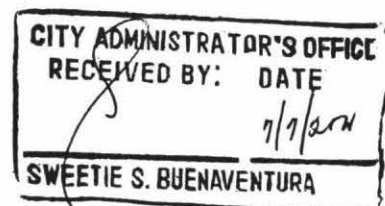
The sites she has chosen in the conduct of her research are the Ninoy Aquino Parks and Wildlife Nature Center (NAPWNC) and the Quezon Memorial Circle (QMC).

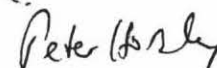
We will greatly appreciate the assistance you can extend to her to complete her field research and survey.

Best regards.

Very truly yours,


Dr. Johanna Rosier
Thesis Supervisor




Mr. Peter G. Horsley
Thesis Supervisor

922-4458

Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey

July 3, 2000



School of Resource &
Environmental Planning
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5689

Dir. Reynaldo Bayabos
Protected Areas and Wildlife Bureau
Visayas Avenue, Diliman, Quezon City
Philippines

Attention : Romulo O. Del Mundo
Acting Park Superintendent
Ninoy Aquino Parks and Wildlife Nature Center

Sir :

Greetings from the School of Resource and Environmental Planning
at Massey University, New Zealand!

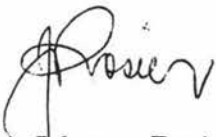
This is to introduce Ms. MARIA THERESA SALVACION MALING-EMANA, our post-graduate student who is currently undertaking research on urban park management and environmental conservation for her master's thesis. Ms. Emana works for the Office of the Assistant Secretary for Planning and Policy, Department of Environment and Natural Resources (DENR).

One of the sites she has chosen in the conduct of her research is the Ninoy Aquino Parks and Wildlife Nature Center (NAPWNC) which is under the jurisdiction of your Bureau.

We will greatly appreciate the assistance you can extend to her to complete her field research and survey.

Best regards.

Very truly yours,



Dr. Johanna Rosier
Thesis Supervisor



Mr. Peter G. Horsley
Thesis Supervisor

Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey

July 3, 2000

Engr. Zaldy A. dela Rosa
Acting City Govt Dept. Head II
Parks Dev't & Adm. Dept.
Elliptical Road, QC Hall
Philippines.

Sir/ Madam,

Greetings from the School of Resource and Environmental Planning
at Massey University, New Zealand!

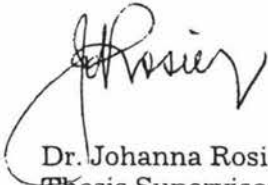
This is to introduce Ms. MARIA THERESA SALVACION MALING-EMANA, our post-graduate student who is currently undertaking research on urban park management and environmental conservation for her master's thesis. Ms. Emanas works for the Office of the Assistant Secretary for Planning and Policy, Department of Environment and Natural Resources (DENR).

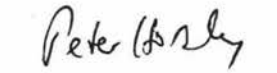
The sites she has chosen in the conduct of her research are the Ninoy Aquino Parks and Wildlife Nature Center (NAPWNC) and the Quezon Memorial Circle (QMC).

We will greatly appreciate the assistance you can extend to her to complete her field research and survey.

Best regards.

Very truly yours,


Dr. Johanna Rosier
Thesis Supervisor


Mr. Peter G. Horsley
Thesis Supervisor

Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey

BIBLIOGRAPHY:

- ANZECC, 2000: "Best Practice in Protected Area Management Planning". ANZECC Working Group on National Parks and Protected Areas Management Benchmarking and Best Practice Program. 48 pp.
- Adlao, N. N., Sison, A. C. and Villaluz, E. D. 1991: Report on the Audit of the Quezon City Parks Development Foundation, Inc. Commission on Audit Report.
- Agee, J. K. and Johnson, D. R. 1988: **Ecosystem Management for Parks and Wilderness**. University of Washington Press, Seattle.
- Aley, J., Burch, W. et al. (eds) 1999: **Ecosystem Management: Adaptive Strategies for Natural Resources Organizations in the Twenty-first Century**. Taylor and Francis, PA, USA.
- Allison, B., O'Sullivan, T. et al. 1996: **Research Skills for Students**. Kogan Page Limited, London.
- Archer, E. A. 1994: People and the Environment: Preserving the Balance. Report of proceedings of the Fifteenth Congress of the Universities of the Commonwealth, Swansea, August 1993. London. 447 pp.
- Asian Development Bank and The World Conservation Union. 1995: **Biodiversity Conservation in the Asia and Pacific Region. Constraints and Opportunities**. ADB, Manila, Philippines.
- Baga-Reyes, V. 1999: "Circle of Life". *The Philippine Daily Inquirer*. October 17.
- Balane, E. 1992: "Planas, inihabla sa P21-M graft". *Balita*. April 15.
- Basa, V. F. 1988: Current report: *Boundaries of National Parks*. Integrated Protected Areas Technical Workshop. WWF-US/Department of Environment and Natural Resources/Haribon Foundation for the Conservation of Natural Resources. University of the Philippines, Los Banos, 15-17 March. 5 pp.
- Berkes, F., George, P., and Preston, R. 1991: "Co-Management: The Evolution in Theory and Practice of the Joint Administration of Living Resources," *Alternatives*. Vol.18, No. 2.
- Borrini-Feyerabend, G. 2000a: **Collaborative Management of Protected Areas: Tailoring the Approach to the Context**. IUCN- The World Conservation Union. Gland, Switzerland.

- Borrini-Feyerabend, G. 1997: **Beyond Fences: Seeking Sustainability in Conservation. Volume II.** IUCN. Gland, Switzerland.
- Borrini-Feyerabend, G., Farvar, M. T. et al. 2000: **Co-Management of Natural Resources. Organizing, Negotiating and Learning-by-Doing.** Kasperek Verlag. Geidelberg, Germany.
- Brown, K. et. al. 1998: "Building partnerships for conservation in the Waitaki/MacKenzie Basins". **Landcare Research Contract Report LC9899/033**, Lincoln, New Zealand.
- Brown, M. And Wyckoff-Baird, B. 1992. **Designing Integrated Conservation and Development Projects (Revised ed.)**. The Biodiversity Support Program, Landover.65 pp.
- Byers, B. A. 1996: "Understanding and Influencing Behaviors in Conservation and Natural Resources Management". African Biodiversity Series No.4. Biodiversity Support Program. 27pp.
- Campbell, T. 1996: Co-management of Aboriginal Resources, **Information North**. Vol. 22, No.1.
- Castelo, A. C. 2000: Proposed Resolution No. 2000-70. Repealing SP-52, S-92 that Ratified the Memorandum of Agreement Between the Quezon City Government and the Quezon City Parks Development Foundation, Inc. For the Improvement, Maintenance, Management and Operation of Parks and Open Spaces Designated by the City for the Welfare and Recreation of its Residents.
- Cessford, G. 1998a: "Visitor satisfactions, impact perceptions, and attitudes toward management options on the Milford Track" in **Science for Conservation: 87**. Department of Conservation. Wellington.
- Cessford, G. 1998b: "Visitor satisfactions, impact perceptions, and attitudes toward management options on the Travers-Sabine Circuit Track" in **Science for Conservation: 91**. Department of Conservation. Wellington.
- Cusword, G. 1998c: "Visitor satisfactions, impact perceptions, and attitudes toward management options on the Routeburn Track" in **Science for Conservation: 92**. Department of Conservation. Wellington
- Conway, Hazel. 1991: **People's Parks. The Design and Development of Victorian Parks in Britain.** Cambridge University Press, Great Britain.

- Cruz, N. H. 2000: "Don't mistake a shrine for an entertainment center". *The Philippine Daily Inquirer*. February 22.
- Cunanan, B. 2000: "Quezon Circle – revered shrine or people's park or both?" *The Philippine Daily Inquirer*. February 21.
- David, R. J. 2000: "To whom does a park belong?" *The Philippine Daily Inquirer*. March 1.
- David, R. J. 1999: "One bad idea". *The Philippine Daily Inquirer*. July 13.
- Dearden, P. and Rollins, R. (eds.) 1993: **Parks and Protected Areas in Canada. Planning and Management**. Oxford University Press, Toronto.
- DENR. 1991: **Philippine Strategy for Sustainable Development**. Department of Environment and Natural Resources. Quezon City.
- DENR Administrative Order No. 2000-46: Guidelines on the Establishment of Regional Wildlife Rescue Center.
- DENR Administrative Order No. 47, series of 1993: Revised Rates of Fees for the Entrance to and Use of Facilities Inside Protected Areas.
- Department of Conservation: "Community Involvement in Conservation Management Issues". DoC Technical Series 21. New Zealand.
- Department of Conservation, 1993: **Management Techniques to Reduce Visitor Impacts. A Specialist Manual for Managers of Outdoor Recreation Resources**. New Zealand.
- Eagles, P., 1999: International Ecotourism Management: Using Australia and Africa as Case Studies. Paper prepared for the IUCN World Commission on Protected Areas, Protected Areas in the 21st Century: From Islands to Networks. Albany, Australia.
- EMB 1996: **Training Manual in Environmental Planning and Management for Sustainable Development**. United Nations Development Programme, Makati.
- Fernandez, P. V. 1988: A Community Care System for National Parks (proposal for legislation). Integrated Protected Areas (IPAS) Workshop. University of the Philippines, Los Banos, 15-17 March. pp. 90-108.
- Gill, J. and Johnson, P. 1991: **Research Methods for Managers**. Paul Chapman Publishing Ltd., London.

- Fogg, G. E. 1990: **Park Planning Guidelines** (3rd ed.) National Recreation and Park Association, Virginia, USA.
- Fogg, J. E. and Shiner, J.W. 1989: **Management Planning for Park and Recreation Areas**. National Recreation and Park Association, Vancouver.
- Forgie, V., Cheyne, C. and McDermott, P. 1999: "Guidelines for Involving Citizens in Local Government", **Democracy in New Zealand Local Government. Purpose and Practice**. School of Resource and Environmental Planning, Massey University.
- Frampton, George T. Jr. 1994: Ecosystem Management in the National Park Service. Discussion draft of the Resource Stewardship Team, Ecosystem Management Working Group, National Park Service. USA.
- Furze, B., De Lacy, T and Birckhead, J. 1996: **Culture, Conservation and Biodiversity. The Social Dimension of Linking Local Level Development and Conservation Through Protected Areas**. John Wiley and Sons, England
- Giongo, F. and J. Bosco-Nizeye, 1999: A Study of Visitor Management in the World's National Parks and Protected Areas. Colorado State University, Research Paper.
- Giron, T. V. "Quezon Memorial Circle expands ecology gardens". *The Philippine Daily Inquirer*. May 28.
- Glasson, J., Godfrey, K., Goodey, B. et. al. 1995: **Towards Visitor Impact Management. Visitor Impacts, Carrying Capacity and Management Responses in Europe's Historic Towns and Cities**. Avebury Ashgate Publishing Ltd., Aldershot, England.
- Graefe, A., F. Kuss and J. Vaske, 1990: **Visitor Impact Management. A Review of Research**. National Parks and Conservation Association, Washington D.C.
- Graefe, A., F. Kuss and J. Vaske, 1990: **Visitor Impact Management. The Planning Framework**. National Parks and Conservation Association, Washington D.C.
- Hall, C.M. and McArthur, S. 1993: **Heritage Management in New Zealand and Australia. Visitor Management, Interpretation and Marketing**. Oxford University Press. Auckland.
- Haribon Society. 1983: **Philippine National Conservation Strategy: A Strategy For Sustainable Development**. Haribon Society/IUCN/The Philippine Presidential Committee for the Conservation of the Tamaraw. Manila.

http://www.wcmc.org.uk/protected_areas/data/define.htm

- IUCN – The World Conservation Union. 1997: **Ecosystem Management : Lessons from Around the World. A Guide for World Bank Managers and Development Practitioners.** Draft version.
- IUCN. 1994: **Guidelines for Protected Area Management Categories.** IUCN Cambridge and Gland, Switzerland. 261 pp.
- Jubenville, A. And Twight, B. W. 1993: Distribution of Visitor Use. **Outdoor Recreation Management; Theory and Application (3rd. Ed.)** Venture Publishing Inc., State College, PA. pp 197-208.
- Kaplan, R., Kaplan, S. and Ryan, R.L. 1998: **With People in Mind. Design and Management of Everyday Nature.** Island Press, USA.
- Lacuerta, G. G. 2000: "Thousands party at Quezon City Circle". *The Philippine Daily Inquirer.* February 16.
- Leask, A. and Yeoman, I. 1999: **Heritage Visitor Attractions. An Operations Management Perspective.** Redwood Books, Trowbridge, Wiltshire.
- Lewis, C. 1996: **Managing Conflicts in Protected Areas.** IUCN, Gland, Switzerland and Cambridge, UK.
- Lovett, F.N. 1998: **National Parks. Rights and the Common Good.** Rowman & Littlefield Publishers, Inc. Maryland, USA.
- Manning, R. E. 1986: The Recreation Opportunity Spectrum: Designs for Diversity. **Studies in Outdoor Recreation.** Oregon State University Press, Corvallis, Oregon. pp. 97-108.
- Manosa, F. 1989: Quezon Memorial Circle. Report.
- Margoluis, R and N. Salafsky. 1998: **Measures of Success. Designing, Managing, and Monitoring Conservation and Development Projects.** Island Press, Washington DC, USA.
- McMichael, D. F. 1972: "Management of people and facilities for recreation", in **Management of Conservation Reserves.** Australian Conservation Foundation, Parkville, pp 9-12.
- McNeely, J.A., Harrison, J. and Dingwell, P. 1994: "Introduction – Protected Areas in the Modern World," in J. A. McNeely, J. Harrison and P. Dingwell's (eds) **Protecting Nature: Regional Reviews of Protected Areas.** IUCN, Gland, Switzerland, pp. 5-15.

- Memorandum of Agreement and Management Contract Between the Quezon City Government and the Quezon City Parks Development Foundation.
- Memorandum for Mr. Ricky Quezon Avanceña from Senator Miriam Defensor Santiago, April 10, 2000.
- Minutes of the Board Meeting, Quezon City Parks Development Foundation, Inc., November 23, 1989.
- Minutes of the Board Meeting, Quezon City Parks Development Foundation, Inc., September 21, 1989.
- Minutes of the Committee Meeting of the Quezon City Council, March 6, 1989.
- Minutes of the Meeting on the Annual Development Plan and Work Program, March 14, 1989. QC Council.
- Mitchell, B. 1997: **Resource and Environmental Management**. Addison Wesley Longman Limited. Essex, England.
- Moote, A. 1995: **Partnership Handbook. A Resource and Guidebook for Local, Community-based Groups Addressing Natural Resource, Land Use or Environmental Issues**. College of Agriculture, University of Arizona.
- Naess, A. 1992: "Sustainability! The integral approach" in **Conservation of Biodiversity for Sustainable Development**. Scandinavian University Press, Oslo. pp 303-314.
- National Research Council. 1991: "Science and the National Parks". Committee on Improving the Science and Technology Programs of the National Parks Service.
- Nelson, J. G. 1993: "Beyond Parks and Protected Areas" in P. Dearden and R. Rollin's **Parks and Protected Areas in Canada**. Oxford University Press, Toronto. pp 45-56.
- Office of Tourism. 1996: **Projecting Success. Visitor Management Projects for Sustainable Tourism Growth**. The Commonwealth Department of Industry, Science and Tourism. Paragon Printers, Canberra.
- PAWB. 1999: **1998 Statistics on Protected Areas and Wildlife Resources**. Protected Areas and Wildlife Bureau, Quezon City, Philippines.
- PAWB. 1998a: Management Plan. Ninoy Aquino Parks and Wildlife Nature Center. Report.

- PAWB. 1998b: Ninoy Aquino Parks and Wildlife Nature Center. Report prepared by the Recreation Division.
- PAWB. 1992: **National Integrated Protected Areas System (NIPAS) Act. R.A. No. 7586 and Implementing Rules and Regulations, DAO 25, S. 1992.**
- PAWB. 1991: **The Protected Areas and Biological Diversity of the Philippines.** Protected Areas and Wildlife Bureau, Quezon City, Philippines.
- Planas, C. L. 1999: Quezon Memorial Circle: A city's new landmark. Flyer.
- Pollock, G.F. 1998: **Co-Management: Options for Egmont National Park.** Master thesis. Department of Resource and Environmental Planning, Massey University.
- Preece, N., Oosterzee, P. et al. 1995: Two Way Track. Biodiversity Conservation and Ecotourism. A Report to the Biodiversity Unit of the Department of Environment, Sport and Territories. Biodiversity Series, Paper No. 5. Paragon Printers, Canberra.
- Proclamation No. 312. Disestablishing the Ninoy Aquino Parks and Wildlife Nature Center Situated in Quezon City, Metro Manila as Protected Area and Shall be Known as DENR Wildlife Rescue and Rehabilitation Center. May 15, 2000.
- Protected Areas Information Service. 1999: 1992 Protected Areas of the World: A review of national systems. Philippines. (<http://www.wcmc.org.uk>)
- QC Parks Development and Administration Division, 1992: "Quezon Memorial Circle and Quezon City Parks Development Foundation, Inc." Report.
- Roque, C. 1991: Prospects for Sustainable Development in the Philippines. Paper presented to the XVII Pacific Science Congress, 27 May-2 June 1991, Honolulu. 15 pp.
- Salafsky, N. and Margoluis, R. 1999: **Greater Than the Sum of Their Parts: Designing Conservation and Development Programs to Maximize Results and Learning. A Practical Guide for Program Managers and Donors.** Biodiversity Support Program, Washington DC, USA.
- Sandlund, O. T., Hindar, K. and Brown, A. H. D. 1992: **Conservation of Biodiversity for Sustainable Development.** Scandinavian University Press, Norway.
- Saterson, K., Margoluis, R and Salafsky, N. 1999: **Measuring Conservation Impact. An Interdisciplinary Approach to Project Monitoring and Evaluation.** World Wildlife Fund Inc. Washington DC.

- Saterson, K.A. 1999: "Why is Monitoring of Conservation Projects Both Necessary and Challenging?" in **Measuring Conservation Impact. An Interdisciplinary Approach to Project Monitoring and Evaluation.** World Wildlife Fund Inc. Washington DC.
- Scherl, L. 1994: Understanding Outdoor Recreation Experience: Applications for Environmental Planning and Policy, in D. Mercer's (ed) **New Viewpoints in Australian Outdoor Recreation Research and Planning.** Hepper Marriott and Associates, Australia. pp 37-56.
- Scudmore, J. 1996: "The Main Arbiter of Your Behavior is You." **Australian Parks and Recreation.** 32:11-17.
- Sermeno, R. 1996: "Quezon Memorial Shrine chronology of events." Report.
- Shackley, M. 1999: **Visitor Management in Heritage Visitor Attractions. An Operations Management Perspective.** Redwood books, Trowbridge, Wiltshire
- Shah, A. 1995: **The Economics of Third World National Parks.** Edward Algar Publishing Ltd. Hants, UK
- Sharpe, G., C. Odegaard and W. Sharpe, 1994: **A Comprehensive Introduction to Park Management.** Sagamore, Illinois.
- Sison, L. 1992: "Planas questioned on P21M 'missing' funds". *Philippine Daily Globe.* April 15.
- Spellerberg, I.F., 1992: **Evaluation and Assessment for Conservation. Ecological Guidelines for Determining Priorities for Nature Conservation.** Chapman and Hall, London.
- Stankey, G. H., Cole, D. N. et. al. 1985: The Limits of Acceptable Change (LAC) System for Wilderness Planning. A general technical report INT-176, Intermountain Forest and Range Experiment Station, US Forest Service. pp. 1-21.
- Suarez-Reyes, L. 1999: "Quezon City Parks and Development pursues drive for clean and green environment". *The Philippine Daily Inquirer.* May 2.
- Sunde, C., Taiepa, T and Horsley P. 1999: "Exploring Collaborative Management Initiatives between Whaganui Iwi and the Department of Conservation". Occasional Paper No. 3. School of Resource and Environmental Planning, Massey University.

- Taylor, P. C. 1993: The New Zealand Recreation Opportunity Spectrum. Hilary Commission and the Department of Conservation. Wellington, New Zealand. Pp. 9-20.
- Tilden, F. 1977: **Interpreting our heritage**. Chapel Hill, University of North Carolina Press.
- Tisdell, C. A. 1995: "Issues in Biodiversity Conservation Including the Role of Local Communities" in **Department of Economics Discussion Papers**. University of Queensland. NZ
- Tri-partite Memorandum of Agreement – NHI/NPDC/QC Government. 1989.
- Ulfelder, W. H. And Dugelby, B. L. 1998: "Local Participation in Protected Area Management: The PALOMAP Study and Methodology".
- Veal, A. J. 1997: **Research Methods for Leisure and Tourism. A Practical Guide**. (2nd ed.) Financial Times Management, Great Britain.
- WCMC. 1988: The Conservation Status of Biological Resources in the Philippines. A report by the IUCN Conservation Monitoring Centre prepared for the International Institute for Environment and Development. World Conservation Monitoring Centre, Cambridge, UK. 68 pp.
- Welch, D. 1995: **Managing Public Use of Parks, Open Spaces and Countryside**. Pitman, London.
- Wildlife Rescue Center/PAWB. 1998: Animal Stock Inventory at NAPWNC-WRC. Report.
- World Resources Institute. 1992: **Conservation of Biodiversity in Protected Areas**. Washington, DC.
- World Resources Institute. 1992: "Governance and Biodiversity: Weaving Resilience into the Web of Life". Washington, DC.
- World Resources Institute. 1992: "Guidelines for Preparing Protected Area System Plans". Washington, DC.
- World Resources Institute. 1992: Principles and Guidelines for Planning Biodiversity Conservation. Washington, DC.
- World Resources Institute. 1992: Strengthening Protected Areas. Washington, DC.

- World Tourism Organization (WTO) and United Nations Environment Programme (UNEP), 1992: **Guidelines: Development of National Parks and Protected Areas for Tourism.** Madrid, Spain.
- Wright, G. R. (ed). 1996: **National Parks and Protected Areas. Their Role in Environmental Protection.** Blackwell Science, Inc., Massachusetts, USA.
- WWF. 1991: Integrated Protected Areas System of the Philippines. Feasibility studies, preliminary design and other support components. Inception report. World Wildlife Fund-US, Washington, DC. 31 pp.
- Yaffee, S.L., Philips, A.F. et al. 1996: **Ecosystem Management in the United States. An Assessment of Current Experience.** Island Press, Washington D.C., USA.