

**PNG/99/G41 Marine Conservation in Milne Bay Province,  
Papua New Guinea**

**A Policy and Planning Needs  
Assessment for the Milne Bay Marine  
Conservation Project**

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## EXECUTIVE SUMMARY

Notwithstanding the legal options listed in this Policy and Planning Needs Assessment (PPNA) the brunt of the project work at the community-level will have few legislative aspects. This is mainly a result of the specific tenure system of PNG, which largely precludes the use of directive mechanisms and which tends to turn community-based conservation into an incentive-driven process.

As a result, the Milne Bay Conservation program (MBP) will find itself facilitating an interactive and participatory process aimed at sensitising communities to upcoming resource shortages and possible mitigating action in the form of Marine Protected Areas (MPA). The aim is to make these MPAs attractive to resource owners by demonstrating how such areas may safeguard their main source of income, while also providing an additional dive-tourism related source of income.

The legislative review contained in this report argues that the best opportunities for conservation and resource management in Milne Bay come from 1) the use of area-based conservation mechanisms such as that contained in PNG conservation law and 2) an improvement in the enforcement of Provincial Fisheries legislation. The most attractive mechanism for area protection constitutes the establishment of so-called conservation areas, which provide for highly flexible and well-protected management regimes. Unfortunately the *Conservation Areas Act* is not operational at the moment. The second best option, consisting of Wildlife Management Areas, suffers from a lack of implementation capability. Other legal mechanisms such as area protection under private law or the fisheries legislation are more workable, but are characterised by much lower levels of control, as they rely on agreements among the community itself rather than the State for enforcement. (See Table 2 on page 48 for an overview of options).

At present, sedentary fisheries in Milne Bay are managed under provincial management plans lodged with the National Fisheries Authority and enforced through trade controls. Stricter adherence to sustainability criteria may conserve the resource for future use but is also likely to be subject to increasing political pressure. An improvement of basic information on the availability of the local resource and awareness with regard to the policy options that the province is facing will improve fisheries management in the province.

Since 1995 PNG is in the process of devolving central Government responsibilities to Provincial and Local-Level Governments. The New Organic Law regulating the decentralisation of powers appears to offer a number of law-making powers in the field of conservation. As of yet no use has been made of these powers by either the province of Milne Bay or local-level Governments in the project area.

The PPNA also outlines existing gaps in the present legislation, presents the key stakeholders at the national level, the options for conservation-related income in Milne Bay Province and the steps required to secure Government counterpart funding for the GEF proposal for the MBP. Key recommendations of the PPNA are

- To heavily focus on the program of community consultations. Without community involvement there will be no protected areas in Milne Bay;
- To develop an education component which develops basic ecological messages with regard to marine resource management and its economic importance;
- To analyse the legal options available to the Provincial and Local-Level Governments under the New Organic Law;
- To monitor and assist the OEC where possible in applying the Conservation Areas Act and in the process of establishing Wildlife Management Areas;
- To monitor and assist the OEC in its revision of conservation legislation, making sure that the revised acts apply to marine areas;
- To discuss with the NFA the upcoming revision of the Fisheries Management Act and the provincial fisheries management plans;
- To draw up a covenant and supporting legislation at the provincial level to increase the benefits that local communities derive from dive boat operations.
- To make available funds for a legal analysis of the use of Private Law agreements for conservation (Conservation deed).
- To improve the enforcement of outsiders intruding on Milne Bay resources by enlisting communities, and the licensed fishing companies in monitoring sea area.
- To provide legal training and capacity building to the provincial fisheries department.

## ACKNOWLEDGEMENTS

This Policy and Planning Needs Assessment written for Conservation International (CI), the Milne Bay Provincial Government and the UNDP/UNOPS is based on two separate visits to Port Moresby and the project site in Milne Bay, Papua New Guinea. During the first visit in December 2000 intensive consultations were held with the Milne Bay Provincial Government, the CI/Milne Bay provincial project unit, the UNDP, the National Departments of Environment and Conservation and Finance and Planning, the National Fisheries Authority and a number of sister NGOs working on issues of marine conservation in Papua New Guinea. During a second visit in February 2001 a workshop was held with all the above-mentioned stakeholders to discuss and fine-tune an earlier draft of this document.

In writing this report I am, as usual with short-term consultancies, indebted to a whole range of people and institutions who took time to share their knowledge with me and provided me with many reports already written. Not being able to mention them all I wish to specifically thank Gai Kula (CI-PNG) and all his folks in Port Moresby, Bena Seta (of the Milne Bay/CI Project Office) and his team in Milne Bay, and Chuck Burg and Jim Cannon of CI-Washington for their invitation to conduct this study. I would like to thank Jeff Kinch for sharing his literature with me and for the pleasant evenings on his veranda. My gratitude also goes out to the Milne Bay Provincial Administration and its staff for their hospitality and help in taking me around and sharing their thoughts.

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For a full list of people consulted see appendix 8.2.

FVH  
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## ACRONYMS

ALC	Automatic Location Communicator
CA	Conservation Area
CBD	Convention on Biological Diversity
CDT	Community Development Team
CI	Conservation International
CITES	Convention on the International Trade in Endangered Species
CNA	Conservation Needs Assessment
CZ	Conservation Zone
DEC	Department of Environment and Conservation
DNP&M	Department of National Planning and Monitoring
GEF	Global Environment Facility
GOPNG	Government of Papua New Guinea
GPS	Global Positioning System
ICAD	Integrated Conservation and Development
IFAD	International Food and Agricultural Development
ILG	Incorporated Landowner Group
IUCN	World Conservation Society
LGC	Local Government Council
LLG	Local Level Government
MAB	Man and Biosphere
MBP	Milne Bay Community-Based Marine Conservation Program
MBPG	Milne Bay Provincial Government
MBVB	Milne Bay Visitors Bureau
M&EP	Monitoring & Evaluation Plan
MPA	Marine Protected Area
NCC	National Conservation Council
NEC	National Executive Council
NFA	National Fisheries Authority
NFB	National Fisheries Board
NGO	Non-Governmental Organisation
OLPG&LLG	Organic Law on Provincial Governments & Local-Level Governments
OEC	Office of Environment and Conservation
PDF	Project Development Facility
PEC	Provincial Executive Council
PIP	Public Investment Program
PNG	Papua New Guinea
PPNA	Planning and Policy Needs Assessment
PRA	Participatory Rural Appraisal
SES	Social Evaluation Study
SFS	Social Feasibility Study
SPP	Stakeholder Participation Plan
SUOP	Sustainable Use Options Plan
TAC	Total Allowable Catch

TNC	The Nature Conservancy
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Program
UNESCO	United Nations Education, Scientific and Cultural Organisation
UNOPS	United Nations Office of Project Support
VMS	Vessel Monitoring System
WDC	Ward Development Committee
WMA	Wildlife Management Area
WMC	Wildlife Management Committee
WWF	World Wildlife Fund

## 1. INTRODUCTION

### 1.1. Resource Ownership and Conservation in Papua New Guinea

The most critical feature of natural resource management in Papua New Guinea (PNG) has to do with the fact that land and resources are owned by a large number of clan groups whose tenure rights are recognised in the Constitution. More than 97 percent of land is held under customary tenure arrangements, a mere three percent is State-held. Customary tenure not only covers land and terrestrial flora and fauna, but also extends into freshwater and marine resources, covering beaches, reefs and fishing grounds. Only open seas, mineral resources, Government land and protected fauna are vested in the State.

Although the *Land Act* formally allows for the alienation of land and resources, such alienation has rarely occurred since Independence in 1975, due to its politically sensitive and technically problematic nature. In practice, the Government of PNG (GOPNG) does not have the means to access, manage or exploit natural resources without the consent, co-operation, and compensation of local resource owners. In this respect PNG represents something of a paradox. Whereas many scientists and economists have argued that local communities must have a stake in the management of natural resources for conservation to succeed, in PNG, in a situation characterised by strongly developed communal property rights it becomes clear that just the presence of property rights do not provide a solution to the conservation versus development trade-offs that resource-owning communities are confronted with (McCallum and Sekhran 1997, Cf. Kula 1998). What this means in practice is that if conservation in PNG is to be successful, instruments have to be developed which make conservation attractive to local resource owners and which allow for the application of conservation regimes on customary-held lands and waters.

The existing tenure arrangements also imply that local resource owners and not the Government are the first interested party when it comes to negotiations over the management and conservation of natural resources. This engenders a power balance in which local communities have much more influence than found in most other developing countries. It also emphasises the need for a genuinely participatory approach in which local peoples' views of nature, the management of natural resources, and the often strongly-felt need for socio-economic development are, from the start, integrated into the project design, planning and implementation.

#### 1.1.1. Resources in Competition

Land ownership is a critical issue to most Papua New Guineans as land constitutes an important source of identity, group unity, status, and security. Also urban people working in the rapidly modernising public and private sectors of PNG retain customary rights to land and resources in their place of origin. Land is also valued in economic terms as a source of subsistence, cash crop production, and natural resources.

In recent years the perception that natural resource exploitation may constitute a shortcut to development, has grown due to the interventions of mining and timber companies. Money has come to be seen as the key to a better life, new educational and business opportunities, a means to meet one's obligations, and a source of status. The result of this focus on the purchase of manufactured goods and services with money, rather than the exploitation of nature for direct use, is that the environment is losing many of its previous functions and much of its previous use-value. Instead, the environment now becomes valued insofar as its exploitation can provide financial rewards and better services to people. This shift from use-values to market values for a number of environmental products is most clearly visible in the forestry sector in PNG, but in essence applies to virtually all natural resources.

As a result, of this focus on resources both for socio-cultural and development reasons, Papua New Guineans actively participate in discussions over the use of land and resources. These debates can become highly political and involve lengthy legal battles when land and resources acquire a sudden monetary value through the activities of timber and mining companies who seek to conclude a deal with local resource owners. While this aspect is critical in terrestrial conservation due to the high value of timber and minerals and the destructive nature of most timber and mining operations, debates over the management of coastal resources take place in a less competitive atmosphere, providing a window of opportunity for marine conservation that may not be found so easily in terrestrial conservation projects.

### *1.1.2. A Different Balance of Power*

The power balance described above implies that within PNG, policy and legislation with regard to land and resource issues can rarely be used as directive mechanisms. As noted above the State of PNG does not have the means to alienate land and resources. As a result, the GOPNG, donors, and conservation agencies, cannot hope to conserve nature unless there are legal mechanisms, which support conservation on customary land. This report argues that such mechanisms, although in need of some improvement, are available under the existing conservation legislation.

This report will also argue that for a project aiming to enhance local conservation practices and the supporting Government institutions, the key policy issue is not so much the improvement of national conservation legislation or the drafting of new legislation, but in the first place the implementation and enforcement of existing legislation. Up to the present day the management of land and resources in the name of the Public Good is in the first place constrained by a serious lack of implementation and enforcement capability at all levels of Government.

Given the difficulty of enforcing country-wide species-specific conservation regulations, this report will also argue that the best opportunities to make a real impact on coastal resource management lie with the development of area-based conservation mechanisms tailored to customary held lands in the form of wildlife management, conservation areas and restricted access zones.

### *1.1.3. A Two-Pronged Approach to Resource Management*

A fundamental difference between PNG and many other countries in the application of area-based conservation mechanisms is that the initiative for the implementation of legislative means on customary land lies in the first place with the resource owners, and not with the Government or other involved parties. The policy mechanisms and legislative instruments described below should thus in the first place be seen as tools to enhance and support *existing* agreements between resource owners, various levels of Government, supporting NGOs and the private sector, and only to a lesser extent as a means to enforce a change of behaviour.

For any project active in the field of resource management and conservation this means that a two-pronged approach has to be followed. The first prong consists of what can be called a Community Entry Approach and is aimed at establishing meaningful and in-depth relations with the communities that make day-to-day decisions over the use of their natural resources. The second prong is aimed at nesting the project within the Government policy process at national, provincial and local levels and at supporting the resulting community-based resource management and conservation agreements with the available legislative means.

The second prong is in many ways subsidiary to the first. In the context of PNG land tenure, one can very well find communities managing their natural resources without the involvement of Government bodies, projects, legislation, and policies. Many communities have done so since time immemorial, and a number of communities are nowadays actively resisting politically sponsored attempts to exploit their natural resources. The reverse option, to force a community into conserving its resources in the interest of society as a whole, is seldom possible. In the first place because the State does not have very many legitimate instruments to do so, in the second place because the State has a limited field capability to enforce the available mechanisms.

In practice this means that conservation objectives, the community management and enforcement process have to be worked through and agreed upon within the involved communities and local level institutions, and between the community and supporting Government and conservation institutions, *before* protective regimes and areas are legally declared.

The two approaches described above, are integral to the project brief being developed under the GEF PDF-B. At this stage its focus is on forging meaningful linkages between the lowest levels of Government and local communities to facilitate the development of a series of community-based resource management action plans. Once such plans have been developed they may be strengthened and formalised by an appeal to the relevant sections of PNG conservation legislation.

### *1.1.4. Aiming for Sustainability*

From a sustainability point of view, however, conservation projects cannot hope to establish long-term resource management programs at the community-level only, but need to strengthen these community-based management practices and agreements by

- Embedding local conservation practices within the available governmental and policy framework and by strengthening the available legislative instruments, management tools and enforcement instruments at all levels;
- By subsequently helping communities and government institutions to enforce the environmental legislation and agreements that apply under the circumstances. To local people this approach may be best explained as a means to prevent the impoverishment that may result from creeping eco-systems degradation.
- By reducing the incentives for unsustainable resource use and by enhancing the incentive structure for more sustainable practices. To local people this approach may be best explained by demonstrating that - under certain circumstances - conservation may be a precondition to development or a means to avoid impoverishment.

The last issue points to the fact that next to the two prongs described above, changing the incentive structure towards more sustainable resource uses is one of the critical issues which conservation projects have to deal with.

One of the most problematic issues facing conservation agencies is that conservation is often seen as an economically non-competitive form of resource use. The main approaches available to rebalance the “competitiveness” of conservation in the face of other forms of resource uses consist of:

- Penalising the unsustainable use of resources by developing protective action and the active enforcement of conservation regulations available within the existing legislative framework;
- Making sustainable resource management attractive by integrating conservation tools into existing livelihood strategies to ensure a continued productivity of local subsistence and income-generating activities. In Milne Bay this aspect is likely to hinge on the message that conservation set-asides constitute a necessary and integral aspect of local fisheries management as a result of the positive impact of such sanctuaries on spawning biomass and spill-over effects, and;
- The use of appropriate conservation tools to allow for the development of resource-related income-generating activities, such as those proposed by so-called Integrated Conservation and Development methodologies. In Milne Bay an attempt to link dive tourism with the conservation of marine resource may provide such an avenue.

The second and - to a lesser extent - third options are an integral part of the Milne Bay Project’s aim to develop an integrated package of conservation, resource management and participatory development activities at the community level, through a coalition of community, local, provincial and national-level government institutions, the private sector and supporting NGOs. The aim to develop meaningful community-based protective and enforceable regimes nested within the existing legislative framework is the main topic of this report.

## **1.2. The Milne Bay Marine Conservation Project**

In 1999 the Milne Bay Provincial Government (MBPG) in conjunction with the Office of Environment and Conservation (OEC), Conservation International (CI), the UNDP Country Office in PNG and with the support of a number of important national institutions such as the National Fisheries Authority (NFA) and the Department of National Planning and Monitoring (DNP&M), set about the development of a Marine Integrated Conservation and Development Project in Milne Bay (hereafter called the Milne Bay Project or MBP).

This proposal is unique in its kind as in PNG

Until now the conservation of terrestrial resources has been given quite some attention through the development of a number of community-based conservation initiatives, but very few projects had been developed aiming at the sustainable management and conservation of coastal marine resources.

- As there is little experience in the application of PNG conservation law on marine resources this project is one of the first of its kind to use the available PNG conservation legislation on the protection of customary owned marine resources.

As project funding was to be sought from the Global Environment Facility (GEF), the various parties jointly applied for a project grant under the GEF Project Development Facility (B). A brief was developed and the attached funding was approved halfway 2000. Aim of the 12 month project development phase is to produce a Project Document for the GEF, the GOPNG and a number of assorted donors proposing a long-term project on coastal and marine conservation in Milne Bay.

Components of the Project Proposal will include:

- A conservation needs assessment (CNA);
- A stakeholder participation plan (SPP);
- A sustainable use options plan (SUOP);
- A social feasibility/evaluation study (SFS/SES);
- A threats assessment;
- A planning and policy needs assessment (PPNA); and
- A monitoring and evaluation plan (M&EP).

This report meets the requirements of the Planning and Policy Needs Assessment.

At the same time that this variety of inputs into the Final Project Document are being developed, Conservation International and the MBPG with the help of the community representatives around the province have defined a number of Marine Conservation Zones in which a community-based drive towards the establishment of conservation set-asides will be

undertaken. Over time, when working models for set-aside establishment have been developed, the project's activities will expand into two other zones aiming to cover a sea, reef and island area of no less than 36,000 square kilometres (Seeto 2000).

The project has started an intensive series of social investigations and discussions with local coastal communities aiming to foster a commitment to coastal and marine conservation and sustainable development within communities and the lowest level government bodies working most closely together with local people. The full project aims to establish a series of community managed conservation areas as part of so-called Village Marine Resource Management and Development Plans (Kinch 2000). These set-asides will be zoned for both protection and a variety of sustainable uses stemming from fishing, diving and recreation. At district, provincial and national levels, the project will support planning, awareness and communications, training and other ancillary activities required for successful conservation management in the province.

### **1.3. TOR of the Policy and Planning Needs Assessment**

This study intends to meet the need for a Planning and Policy Needs Assessment as defined by the MBP development document, aiming to look at the legal and policy tools available to strengthen and shape the process of community facilitation presently taking place. The scope of this study consists of

- “an analysis of all relevant plans and policies ... to determine consistency with conservation values, validity in changing circumstances, gaps, and barriers to implementation”. This in order to “identify opportunities for mainstreaming conservation considerations into planning, building on ongoing efforts”, while
- Its main deliverables consist of “1) a policy analysis and gaps assessment and 2) recommendations for policy strengthening” (UNDP PDF-B document, 1999: 9).

Later discussions with Conservation International made clear that the review of conservation legislation had to be supplemented by descriptions of the stakeholders at the national level in order

- to judge the implications and opportunities for conservation under the New Organic Law which is in the process of decentralising PNG government since 1997;
- to facilitate the co-ordination between the foreign donors represented in PNG by the UNDP, the national level and provincial level institutions involved in the project; and
- to prepare an overview of the steps necessary to incorporate the Marine Conservation project in the policy and budgeting processes of the PNG National and Milne Bay Provincial Governments.



The Terms of Reference for this document are included as Appendix 1.

#### **1.4. An Overview of this document**

This report consists of five chapters. The first is the introduction in front of the reader. The next three look at various sets of legislation and their applicability to the MBP, with the final chapter listing the policy options available to the project team.

- Chapter 2 describes the instruments for species-specific and device-regulating modes of conservation possible as well as the area-based modes of conservation under various PNG conservation acts;
- Chapter 3 discusses the new fisheries legislation and its potential use to the MBP;
- Chapter 4 looks at the New Organic Law and the decentralisation process underway in PNG and the implications for local and provincial conservation management; and
- Chapter 5 sums up the key issues involved in improving legislation, looks at the implementation of existing legislation and issues of enforcement. It also looks at the steps necessary at the national level to include the present proposal in the Development Budget of the GOPNG.
- The concluding chapter pulls together a number of possible policy options available to the MBP in reference to the existing legislation. The aim is to leave the project with what can be called a ‘toolbox’ of legislative options, which may be grafted onto the process of participatory community discussions. Due to the participatory process of community consultations that underpins the MBP it is not the intention of this report to spell out The Way, to go, but rather to provide a menu of options from which the MBP and the involved communities may select the model that fits the circumstances best.<sup>1</sup>

As communities tend to live under a variety of circumstances with different sets of priorities, there is no point in singling out only one form of legal protection as “the way to go”. Maintaining flexibility in the process of reaching community-based conservation is essential to the project’s success and it is hoped that this Policy and Planning Needs Assessment will help the project team and the communities that it engages to select the best tools for its purposes.

The appendices in the back provide a range of information referred to in the report. The separate volume of annexes provides copies of the relevant conservation, fisheries legislation

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<sup>1</sup> Ellis (1999 part 7) and VanHelden (forthcoming) describe the way in which the Bismarck-Ramu project presents interested communities with a variety of conservation options under PNG law. The project has developed a participatory tool, which outlines the available mechanisms through the use of symbols, outlining their nature, giving community members a chance to work through the conservation options available to them.

and the *Organic Law on Provincial Governments and Local-level Governments* for more detailed reference. Also included are the appendices of the Convention on the International Trade in Endangered Species (CITES).





## 2. CONSERVATION LEGISLATION IN PAPUA NEW GUINEA

The main body of conservation legislation in PNG relevant to the Milne Bay Marine Conservation Project consists of three different acts:

- *The Fauna (Protection and Control) Act (1976)* which restricts a) the harvesting of protected wildlife, b) the devices and methods by which fauna may be taken, and c) the establishment of localised protective regimes on land and waters under customary tenure;
- *The Conservation Areas Act (1978)* which, like the *Fauna (Protection & Control) Act* allows for a variety of protective regimes on land under customary tenure;
- *The National Parks Act (1982)*, which provides for the establishment of a variety of reserves on state-owned land.

Other national legislation of less immediate relevance to the MBP which will only be discussed when relevant to conservation issues, is covered by

- *The Crocodile Trade (Protection) Act* which regulates the taking and breeding of crocodiles and the trade in crocodile products;
- *The International Trade (Fauna and Flora) Act* which regulates and restricts the export of CITES listed species;
- *The Customs (Prohibited Exports) Regulation* which regulates the export of flora and fauna from fishing, pastoral, agricultural and forestry industries;
- *The Fisheries Management Act (1998)*, which regulates the set-up of the NFA, the supervision of pelagic fisheries and local and species-specific fisheries management plans. The provisions of the Act are defined in a separate *Fisheries Management Regulation 2000*.
- *The Organic Law on Provincial Governments and Local-level Governments (OLPG&LLG) (1997)* which regulates the respective rights and obligations of the various levels of Government in the field of resource management, and the related *Provincial Governments Administration Act (1997)* and *Local-Level Governments Administration Act (1997)*.
- *The Firearms Act* which restricts the use of weapons and explosives.

- *The Village Court Act (1989)*, which lists the “prescribed offences” which can be dealt with in Village Courts.
- *The Land Groups Incorporations Act (1974)*, which allows for the formal recognition of social groups and their territory and natural resources.

At the international level, PNG has ratified a number of important conservation conventions. Amongst them is

- The Convention on Biological Diversity (CBD) ratified in 1992;
- The Ramsar wetlands convention (1993);
- The United Nations Framework Convention on Climate Change (UNFCCC) (1993),
- The UNESCO convention on World Heritage Sites;
- The UNESCO Man and Biosphere Program (MAB) (member to UNESCO since 1976);
- The London Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter (1974);
- The Montreal Protocol on Substances that Deplete the Ozone Layer (1988);
- The Convention on the International Trade in Endangered Species (CITES) (1976);
- The Convention on the International Protection of Plants (1951);
- The Convention on the Protection of Migratory Species of Wild Animals; and
- The Apia Convention on the Conservation of Nature in the South Pacific.

The national acts, in many cases buttressed and contained by the international treaties mentioned above, together cover and regulate a variety of different conservation measures, which in broad terms consist of four different mechanisms:

- Restrictions on the taking and killing of protected fauna;
- Restrictions on the devices by which fauna and fish are taken;
- The establishment of a variety of conservation set-asides; and

- The regulation of the international trade in flora and fauna.

This review focuses on the first three mechanisms and the manner in which they are covered by the *Fauna (Protection and Control) Act (1976)*, the *Conservation Areas Act (1978)* and the *National Parks Act (1982)*. Those interested in more detail on the trade regulations should refer to Whimp (1995). The *Environmental Planning Act (1978)* of which a new version has just been approved by parliament, and the related *Environmental Contaminants Act (1978)* regulate the extent to which resource developers comply with minimum environmental quality standards. These acts are left outside this report as they have little immediate impact on issues of area-based marine conservation

I will first introduce the available instruments for species and device-specific conservation and then list the general principles of area-based conservation under National Legislation. A more detailed treatment of the latter is the subject of the next chapter.

## **2.1. Species-specific Conservation and Restricted Devices**

The *Fauna (Protection and Control) Act (1976)* regulates the taking and killing of wildlife. Its main instruments consist of 1) species specific conservation instruments which restrict the killing and taking of protected fauna, and 2) a restriction on the devices, equipment and methods by which fauna may be taken. In PNG no serious legislation with respect to the conservation of flora is in existence.

### *2.1.1. Protected Species*

The *Fauna (Protection and Control) Act* specifies that the Minister of Environment and Conservation may declare any fauna to be protected. Listing animals as protected turns them into State property [Sections 6 & 7]. Killing, purchasing or possessing a protected animal may incur fines of Kina 500 per animal [Sections 8 & 9]. The minister may provide exemptions to these sections to certain individuals or classes of individuals under sections 23 and 29.

Until 1996, 72 species have been classified as protected animals. Of these, 49 are birds, 12 are mammals, and the remainder consists of reptiles (1), serpents (1), fishes (2) and insects (7). The Leatherback Turtle (*Dermochelys coriacea*) and the Sea cow (*Dugong dugon*) are the only sea-dwelling animals on the protected species list (DEC 1996) (See Appendix 8.7).

In section 1 of the act “animal” is defined to include “any part or product of such animal”, thus not only including the animal itself, but for example, also its eggs, fur and teeth. There is some concern that this definition may not cover products manufactured from a protected animal, thus for example covering turtle shell, but not bracelets made from turtle shell. If the trade restrictions under the *Fauna Act* are to cover such manufactured products the term may have to be amended (Whimp 1995).

Crocodiles are specifically protected under the *Crocodile Trade (Protection) Act*, which stipulates that it is an offence to hold crocodile, or parts or products thereof, without a licence.

### 2.1.2. *Restricted Devices*

Apart from listing animals as protected, the Minister of Environment and Conservation may also limit or prohibit the devices, equipment, and methods used for taking or killing wildlife by reference to the *Fauna Act* [Section 27].

Subsidiary legislation to the *Fauna Act* nowadays prohibits the use of guns, explosives, and mist nets. The Act partly relies on the *Firearms Regulation Act*, which prohibits the possession or use of guns and explosives (DEC 1995).

Taking a protected animal with prohibited technology counts as a more serious offence than an offence under Sections 8 and 9 of the *Fauna Act* (see paragraph 3.3.1 above) and may be fined up to Kina 1000.

Section 32 of the *Fisheries Management Act (1998)* restricts the use of fishing devices in a manner similar to the *Fauna Act* (See chapter 4 below).

### 2.1.3. *CITES Regulations*

The *Fauna Act* has no provisions for the international trade in protected fauna but relies on the *Customs Act* which stipulates that the export of any fauna without a permit is an offence.

PNG, however, is also party to the Convention on the International Trade in Endangered Species (CITES), which restricts the trade in endangered species. *The International Trade (Fauna and Flora) Act* specifically deals with the export of species listed under the CITES. Under the *International Trade (Fauna and Flora) Act*, CITES species exported without a permit are prohibited exports. Whimp (1995) notes that not all protected species listed in PNG are on the CITES list (See also Miller et Al 1994: 89, and Annex with the CITES Appendices I, II and III).

CITES is of importance to the MBP as it also lists the species which may be harvested and exported under the condition that they are harvested from a ranch or farm. This applies for example to giant clam.

### 2.1.4. *Exemptions to the Taking and Killing of Protected Species*

Subsidiary legislation under section 29 of the *Fauna Act* exempts automatic citizens from the prohibition on taking protected animals as long as



- The hunter refrains from using prohibited technology;
- The animal is taken for use in “traditional native ceremonies” or for sale, not including money, to another citizen requiring the animal for customary purposes;
- The hunter takes protected fauna from land where he has the right to hunt, or of which he is owner.

The second condition constitutes a de-facto ban on the sale of protected animals, or products thereof, for commercial purposes.

Non-Papua New Guineans can only hunt protected animals with written permission by the Secretary of the OEC [Section 10]. Similar exemptions apply to the taking and killing of crocodiles under the *Crocodile Trade (Protection) Act*.

Also exempted under subsidiary legislation gazetted between 1988 and 1994 is the farming of a number of species of the protected *Ornithoptera* genus of butterflies by the Insect Farming and Trading Agency.

#### 2.1.5. *Limitations to Species Conservation under the Fauna Act*

The species-specific conservation sections of the *Fauna Act* have two important drawbacks, neither of which, however appears to affect the operations of the MBP to a great extent:

- The taking and use of flora is not protected by the existing conservation legislation. The only act of law covering flora is the *Forestry Act*, which provides for ‘reserves trees’. According to Whimp (1995: 52) “it is unknown if this provision is in use in a protective sense”. The lack of legislation to list and regulate the taking and possession of endangered flora is considered one of the major lacunae in the PNG scheme of protection. This issue may not be of immediate importance to the MBP, however, as it is mainly dealing with marine life of which animals species are especially under threat. As coral is also an animal, reefs should also be covered by the *Fauna Act*.
- Nation-wide protected species listing under the *Fauna Act* constitutes a rather blunt instrument for species protection as it offers only full coverage versus no protection at all. There are no provisions for more intermediate or managed levels of protection. The only means of attenuating the present blanket effect of the protected animal status is by
  - 1) Specifying the size by which animals achieve protected status. For example trout smaller 203 millimetre have protected status (See Appendix 8.7).
  - 2) The exemptions by which automatic citizens are allowed to take and hunt animals for customary purposes.

A more flexible approach to species conservation would necessitate a change to the *Fauna Act* to allow for the imposition of nation-wide species-specific management plans incorporating aspects such as 1) seasonal harvesting, 2) hunting quotas, 3) gender/age/size specific restrictions, and 4) the management of crucial habitat features such as display trees for birds of paradise (Whimp 1995). Such management plans obviously stand or fall with the Government's ability to monitor and enforce its regulations.

In addition to the enforcement issue, the protection of single species has to be considered less effective than mechanisms that preserve ecosystems in their entirety. Fortunately a number of conservation and fisheries tools allow for area-based conservation in which detailed management plans may also have a place.

## **2.2. Area-based Conservation Mechanisms in Papua New Guinea**

Papua New Guinea has a raft of possible area-based conservation mechanisms covered by the *Fauna (Protection & Control) Act*, the *National Parks Act*, and the *Conservation Areas Act*, which fulfil a number of different functions.<sup>2</sup> Among them one finds

- National and provincial parks;
- Historical reserves;
- Reserves for recreation and amusement;
- Botanical and zoological gardens;
- Protected areas;
- Wildlife management areas (WMAs); and
- Conservation areas.

The designations used in PNG are not consistent with the dominant taxonomy of international protected areas as distinguished by the IUCN (See Table 1 and Appendix 8.3 for details) and may sometimes have more than one meaning. This may lead to confusion as, for example, there are provisions for sanctuaries under both the *Fauna Act* and the *National Parks Act*. The IUCN categories are organised from total protection down to managed ecosystems.

In general community-based reserves enacted in PNG fall in IUCN categories IV, V and VI. This is because the stricter forms of protection predicated on the total exclusion of human activity are less likely to be attractive to resource owners who need to benefit directly from the conservation measures put in place. Within these areas, however, a zoning arrangement may differentiate between more and less strictly protected reefs.

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<sup>2</sup> The options available under the *Fisheries Management Act* are described in the next chapter.

**TABLE 1: THE IUCN CLASSIFICATION OF PROTECTED AREAS**

<b>Cat.</b>	<b>Type</b>	<b>Objectives</b>
<b>I</b>	Strict Nature Reserve/Wilderness Area	Protected area managed mainly for science or wilderness protection
<b>II</b>	National Park	Protected area managed mainly for ecosystems protection and recreation
<b>III</b>	Natural Monument	Protected area managed mainly for conservation of specific natural features
<b>IV</b>	Habitat/Species Management Area	Protected area managed for conservation through management intervention
<b>V</b>	Protected landscape/Seascape	Protected area managed mainly for landscape/seascape conservation and recreation
<b>IV</b>	Managed Resource Protected Area	Protected area managed mainly for the sustainable use of natural ecosystems

SOURCE: IUCN 1999: CF. APPENDIX 8.3

Whimp (1995) suggests that the development of an integrated conservation areas act covering the range of different types of protected areas and incorporating the changes in related legislation such as the New Organic Law would be helpful. Such an integrated act should distinguish protected areas on the basis of their objectives, preferably in a manner consistent with the IUCN classification. The OEC in conjunction with the AusAid-supported DEC Strengthening Project has produced a raft of materials necessary for such a revision of conservation legislation, but as a first step opted for patching up existing legislation rather than for the development of an all-new integrated protected areas act. While proposals to amend a number of conservation acts were drawn up in June 1999, the end of the DEC Strengthening Project two months later means that it is unclear whether the OEC still intends to move towards improving or redrafting the existing conservation legislation. (See appendix 8.9 for a schematic overview of the process of enacting legislative amendments).

The experience of the DEC Strengthening Project suggests that developing and enacting legislative change in the area of conservation may require substantial time, funds and qualified personnel. The question is whether a regional community-based conservation project should embark on such a course. There are indications that other donors may be interested in supporting OEC in amending and implementing its conservation legislation and this document suggests that CI could play a role in such a coalition (See paragraph 5.2).

### 2.2.1. *Making Sense of Protected Areas Legislation in Papua New Guinea*

The first step in making sense of this proliferation of area-based conservation mechanisms is to distinguish them 1) by the underlying tenure arrangement and 2) by the institution that controls the involved regulations; i.e. resource owners and/or the State:

In terms of the underlying tenure arrangement:

1. Reserves, parks and gardens instituted under the *National Parks Act* may only be established on State land and are managed by the Secretary of the OEC.
2. Protected areas, sanctuaries, wildlife management areas (WMAs) and conservation areas established under the *Fauna (Protection & Control) Act* and the *Conservation Areas Act* are always established on customary-held lands.

Of these latter areas based on customary-held lands

- Sanctuaries and protected areas are controlled by the OEC. There are no provisions for the management of these areas under the *Fauna Act*;
- WMAs are generally controlled by landowners, but the OEC may make additional rules and;
- Conservation areas are managed by a conservation area management committee under Ministerial oversight, which establishes the rules, manages the area and assesses, permits/disallows possible conflicting developments.

Next to these two basic distinctions all areas have their own characteristics:

- If they only apply to fauna or also to flora and biodiversity in general;
- To what extent they allow hunting;
- If they apply to marine resources; and
- To what extent conflicting forms of development can be controlled.

For an overview of these issues see Table 2 on page 48. In the next chapter I will first provide a detailed overview of the various possibilities for area-based management and their respective drawbacks under PNG conservation legislation.

## 2.3. National and Provincial Parks

The *National Parks Act* (1982) was enacted in its present form in 1982, but is in many respects a product of the colonial period and its emphasis on conservation through the

exclusion of humans from areas of conservation-worthy nature. The present act replaced legislation enacted in 1966, with amendments dating from 1971 and 1975.

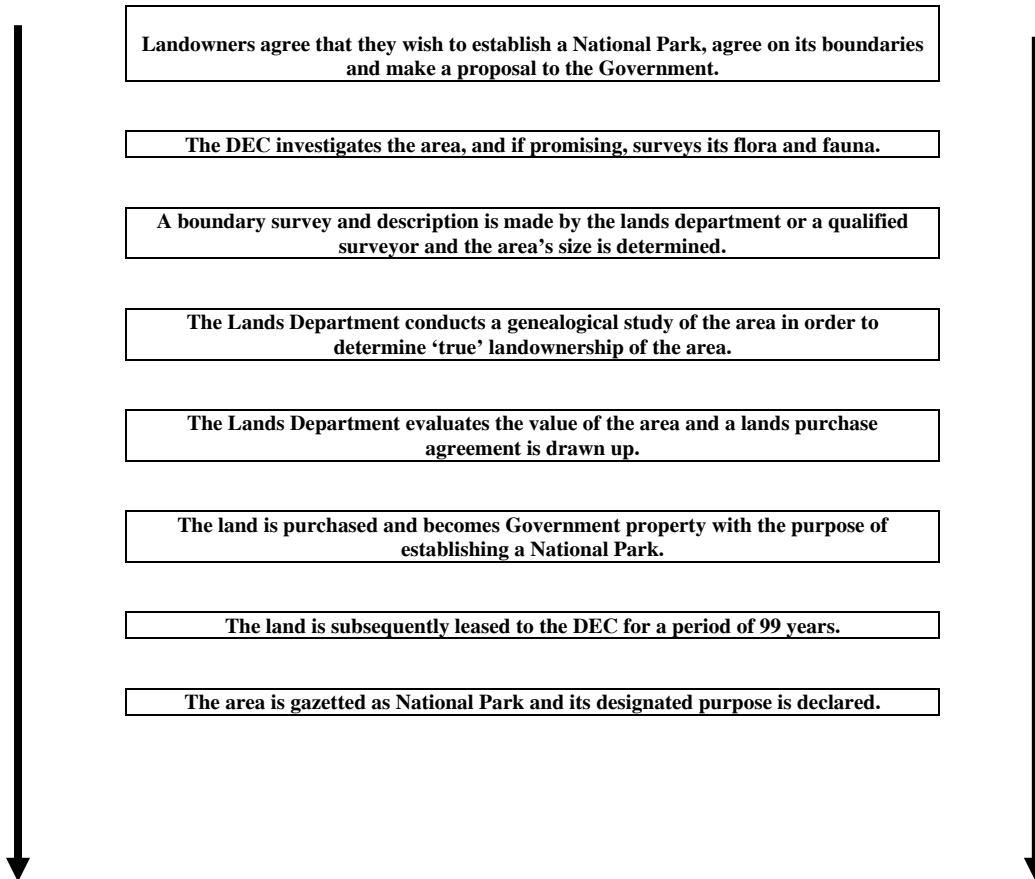
The *National Parks Act* provides for the establishment of 1) scenic and historical reserves for recreation and amusement, 2) national and provincial parks, 3) botanical and zoological gardens, and 4) reserves and sanctuaries for the protection of flora and fauna. The defining feature of this variety of reserves is that they are held on State-owned land and administered by the OEC.

Under section 25 of the *Lands Act* the declaration of national parks is only possible on State lands reserved for that purpose. Section 4 of the *National Parks Act* contains the same provision, section 5 allows lands that are donated or sold by customary resource owners for that purpose to the State, to be gazetted as a national park. Such a procedure consists of three steps. In the first place the land being purchased becomes state land, which is then leased to the OEC for a period of 99 years, finally allowing for the declaration of a national park in the area (DEC no date; (See figure 1 below).

### 2.3.1. *Reserves Established under the National Parks Act*

National Parks were formerly administered by the statutory National Parks Board, a function which was brought under the Director of National parks of the OEC in 1982. The *National Parks Act* was used on a number of occasions before Independence in September 1975, amongst other to establish Varirata and McAdams National Parks (See appendix 8.6). Since 1982, when the act was last revised, two declarations have been made under the act covering the Jimi National Park (not gazetted) and Gahavisuka National Park (Gazetted in 1992). According to OEC criteria, national parks should cover areas of outstanding scenic and scientific interest, of such quality that they attract international tourists. National parks should have a minimum desirable area of 1000 hectares but preferably exceeding double that (Laveape no date (b)).

**FIGURE 1: SCHEMATIC OVERVIEW OF NATIONAL PARK ESTABLISHMENT**



*2.3.2. Advantages and disadvantages of the National Parks Act.*

The main advantages of applying the *National Parks Act* are that:

- As these parks are based on State-land, they are fully controlled by the OEC and can be dedicated to conservation without having to take into account the multiple and often conflicting interests that characterise private and communally held lands.
- The act allows for the delegation of conservation responsibilities by the secretary of OEC to the provincial government.

The main disadvantages of the *National Parks Act* are that:

- Land has to be purchased by the state before it can be turned into a national park. This is difficult as landowners are generally not prepared to sell land;

- If possible at all, this course of action is expensive, meaning that the national parks that have been declared are rather small, thereby compromising their protective function in relation to whole eco-systems. Notwithstanding its name, the *National Parks Act* is thus mainly suited for the management of small scenic, recreational and educational areas. (Compare sizes of protected areas established under the *Fauna Act* with those established under the *National Parks Act* (See Appendix 8.4 and 8.5).
- Even if the alienation of land and resources were possible, it is questionable whether the traditional national park model suits PNG circumstances. Resource owners are fiercely protective of their resources, no doubt triggering serious conflict, which the state would find difficult to control.
- *The National Parks Act* bases itself on the notion of “area” which includes a “site, place or region” but does not stipulate this to include inland and coastal waters such as done in the *Fauna (Protection & Control) Act*. Even though the *National Parks Act* applies to lands reserved under section 25 of the *Lands Act*, this does not solve the issue, as this act does not specifically address the situation either. According to Whimp (1995) in practice the state *does* acquire land under water by means of the *Land Act*, which would suggest that the *National Parks Act* could be used for marine purposes. An OEC computer file lists many proposals for marine parks in Milne Bay, suggesting that the OEC considers this to be the case (See Appendix 8.7). Some uncertainty remains, however, and an amendment to the act could be required.
- The *National Park Act* provides only a weak legal basis for the enforcement of management plans and the regulation of development activities. While it is generally understood that resource operations such as mining and timber operations are inconsistent with conservation objectives of the *National Parks Act*, the act does not explicitly reflect this understanding.

All in all it appears that the *National Parks Act* offers little opportunity for meaningful conservation by the MBP as the latter concentrates on resource management and conservation of customary-held land and waters. The provisions of the *Fauna Act* and the *Conservation Areas Act* appear to offer better opportunities in this respect.

#### **2.4. Sanctuaries, Protected Areas and Wildlife Management Areas**

Next to species-specific conservation and limitations on the use of certain hunting devices and methods (see chapter 3), the *Fauna (Protection and Control) Act* also regulates the establishment of sanctuaries, protected areas and WMAs on customary held land. A number of such reserves have been established in PNG, of which four lie in Milne Bay Province. Many more have been proposed but never enacted in that province (See Appendices 8.5; 8.6 and 8.7).

#### 2.4.1. Sanctuaries and Protected Areas

Sanctuaries are areas declared as such under section 11 of the *Fauna (Protection and Control) Act*. The killing of fauna is totally prohibited within a sanctuary. In PNG this section has been used twice to establish the Balek and Crown Island Sanctuaries in 1977 (See Appendix 8.4). The fine for taking any animal from within a sanctuary stands at Kina 20 per animal.

Protected Areas are areas declared as such under section 13 of the *Fauna Act*. The killing of specified fauna is prohibited within a protected area. Protected areas have been established on Baniara Island in 1975 to protect the Agile Wallaby (*Wallabia agilis*) and on Lihir to protect the Common Scrubfowl (*Megapodius freycinet*) in 1991 (See Appendix 8.4). Neither of these two species is listed as protected fauna in the remainder of the country (See Appendix 8.7). The fine for taking an animal from within a protected area stands at Kina 20 per animal.

The Minister of Environment and Conservation declares sanctuaries and protected areas by notice in the National Gazette. The *Fauna Act* says little about the relations with, and rights of, local resource owners with regard to these areas but appears to put control with the Minister of Environment and Conservation. Section 24 stipulates that the Minister may make rules that are to be applied in sanctuaries and protected areas. There are no provisions for the management of such areas. Under PNG land tenure, these instruments can be used only if local resource owners agree to turn communally held lands into sanctuaries or protected areas, or if these protective regimes apply to State-held land. In the latter case the *National Parks Act* may be more useful.

#### 2.4.2. Wildlife Management Areas

Wildlife management areas provide a mechanism for local control of fauna on land and in waters held under customary tenure. WMA establishment has been the most used form of area-based conservation in PNG, with no fewer than 17 WMAs established since 1975. Since the 1980s the WMA establishment and gazettal process has ground to a halt. The last one gazetted in 1996 was the Kamiali WMA (See Appendix 8.4). Since then there has been a backlog of WMA applications, which have not been gazetted.<sup>3</sup>

WMAs are established at the behest of local landowners on customary lands and are subject to departmental consultations with local landowners and the Local Government Council (Now Local level Government). According to the act, the failure by OEC to consult the latter does not invalidate the declaration of the WMA [Section 15 (2)].

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<sup>3</sup> The OEC also uses a separate classification of areas established under the *Fauna Act* by calling all such areas WMAs, subsequently dividing them into three classes or categories (Cf Jenkins and Kula no date). WMAs Class I are in the *Fauna Act* known as 'WMAs', Class II WMAs are similar to 'Protected Areas' and Class III WMAs are in the act known as 'sanctuaries'. This additional classification is confusing because it is 1) not concurrent with the nomenclature used in the *Fauna Act*, and 2) also relies on a roman numbers classification similar in form but different in content to the internationally recognised IUCN taxonomy of protected areas. In IUCN terms all areas established under the *Fauna Act* classify as category IV, V or VI areas (See table 1). The development of an integrated protected areas act along the lines of the IUCN classification would be helpful.



In order to establish a WMA, a number of steps need to be undertaken. These steps include the demarcation of social and spatial boundaries, the establishment of a Wildlife Management Committee (WMC) by ministerial appointment and the drawing up of a schedule of rules and penalties. The resource owners together with the OEC and conservation NGOs develop these rules and penalties, which have to be gazetted to come into force. Consultation with local landowners and the Local Level Government on these rules is deemed advisory. The act, however, also gives the Minister the right to “make rules for the protection, propagation, encouragement, management, control, harvesting and destruction of fauna within the WMA” [Section 17 (1)].

Failure to consult the WMC of a WMA or the Local Level Government does not invalidate these OEC-made rules [Section 17 (4)]. This implies that landowners cede part of this control over wildlife resources to the OEC on establishment of a WMA. They need to agree to the establishment of a WMA in the first place and may have representatives on the WMC, but may subsequently be subjected to wildlife management rules devised by the OEC.<sup>4</sup>

In practice the OEC lacks the field capability to monitor and enforce rules and regulations within WMAs, while many WMAs even lack gazetted rules (See Appendix 8.4).

#### 2.4.3. *Why Resource Owners like Wildlife Management Areas*

Wildlife management areas are generally the most acceptable form of conservation set-aside to PNG resource owners, as they constitute the protective instrument with the highest level of control to local resource owners. This level of flexibility and responsiveness to the wishes of the resource owners implies 1) that WMA regulations may contain a range of rules and regulations allowing for different management regimes, and 2) that WMAs and the enforcement of WMA rules are only feasible if supported by a motivated and organised community.

As conservation matters in PNG are often framed in terms of control over resources, and WMAs are increasingly used to assert territorial rights, it is not surprising that when given the choice, most landowner groups prefer WMA establishment to other forms of protected area establishment. A call for WMA establishment should thus not necessarily be seen as a sign of a conservationist ethic among the involved groups, but may be driven by reasons other than the wish to conserve natural resources (Cf. Babo 1998; VanHelden 1998).

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<sup>4</sup> There are some projects which have operated on the basis of the assumption that WMAs are fully controlled by the resource owners (see for example Ellis 1999 on the Bismarck-Ramu project). This is not correct as landowners cede part of this control over wildlife resources to the OEC on establishment of a wildlife management area.

#### 2.4.4. *Advantages and Limitations to Wildlife Management Areas*

Wildlife management areas have a number of important and advantageous qualities to the MBP. The main ones are that

- The definition of “land” under *the Fauna Act* includes “land covered by water and waters within the territorial jurisdiction of PNG”, thereby allowing the use of sanctuaries, protected areas and WMAs as a mechanism to protect coastal and marine resources. In 1976 for example, the OEC proposed the WMA declaration of Bramble Haven in Milne Bay to protect marine life and sea birds. This proposal did not eventuate (OEC 2000 Computer file, Appendix 8.7).
- WMAs allow resource owners to maintain control over their resources, which makes this form of conservation regime more easily acceptable than more restrictive forms of conservation, which are based on the need to purchase or otherwise (partly) alienate land and/or resources.
- WMA rules are not necessarily restricted to fauna conservation only. WMCs can make a range of other rules relating to management of resources and land uses if they wish to do so. However, the act itself only regulates the rules relating to
  - (a) Licensing the taking and killing of animals;
  - (b) Fixing the royalties for animals taken; and
  - (c) The disposal of fees and royalties.

WMAs also have a number of disadvantages of which the most important area that:

- A WMA may be degazetted at the behest of resource owners to enable them to pursue incompatible development activities if they wish so.
- “Fauna”, is defined as any species of the animal kingdom, probably including fish and coral, but not covering flora. This may be a problem for terrestrial conservation due to the competition between logging and conservation with PNG forests,<sup>5</sup> but not to affect the MBP, which will most likely focus on the conservation of sedentary fish species and their habitat. WMAs are useful in regulating the harvesting of such species.
- The focus on fauna means that WMAs provide only a weak legal basis for the regulation of development activities. While WMCs may place restrictions on such things as cutting down trees, these rules may be subject to the argument that they are outside the regulations of the *Fauna Act*. Rules not covered by the provisions of the

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<sup>5</sup> Only when there is a direct causal relation between the destruction of habitat and the killing of animals can habitat disturbance be halted by reference of the *Fauna Act*. During the PPNA workshop Tom Cowen, Legal Officer of the MBPG, mentioned a case in Australia where the cutting of trees inevitably led to the killing of tree-dwelling animals, thus leading the court to halt the destruction of habitat on basis of the Australian *Fauna Act*.

*Fauna Act* constitute a weak legislative instrument with which to resist far-reaching habitat conversion (Whimp 1995). Thus only the above-mentioned issues relating mainly to the taking and killing of fauna are likely to be upheld in court. All others have to be enforced by the local community itself through mechanisms of social control. Again this may constitute an issue in terrestrial conservation but is less likely to impact on marine WMAs such as those pursued by the MBP.

- WMAs without approved and gazetted rules are legally “hollow shells”. Whimp (1995) explains that WMA rules are a form of delegated legislation and that the *Interpretation Act* provides that the enactment of rules and regulations must be notified in the National Gazette, coming into operation upon the date of notification in the Gazette. Until WMA Rules are gazetted, WMAs have no legal effect. Numerous WMAs in PNG have no gazetted rules. (See Appendix. 8.5)
- For similar reasons WMAs are less suitable for some of the other conservation objectives which local groups wish to pursue. Whimp (1995) mentions the case of the Pomio area of East New Britain where customary owners of the Kavakuna Caves are seeking a mechanism to control the area to ensure the caves' potential as a tourist-attraction is preserved and to collect gate fees. Although in many instances so-called ICAD projects try to further eco-tourism to remote rural areas in PNG, WMA establishment does not provide the Kavakuna resource owners with a suitable legal mechanism to control these activities. The *Conservation Areas Act*, however, does so because it allows the local community to control all forms of development on customary-held land. Whimp suggests that where WMA rules are to be expanded with more all-encompassing conservation rules, this would require the re-establishment of WMAs as conservation areas under the *Conservation Areas Act*.
- The greatest drawback to WMAs at this stage, however, appears to lie with the difficulties that the OEC is experiencing in drawing up boundaries, and in gazetting the WMAs and their rules.

#### 2.4.5. *Wildlife Management/Conservation Area Establishment in Practice*

In recent years a number of NGOs have gained experience with the establishment of WMAs. Foremost among these are the Research and Conservation Foundation, with its Crater Mountain WMA, which was gazetted in November 1993, and the Village Development Trust with the Kamiali WMA, which was established in 1996. It is unclear whether these WMAs have had their rules gazetted.

Since 1996, the Bismarck-Ramu Group is working towards the establishment of a number of WMAs and a conservation area in the Ramu Valley. The group has gained experience with regard to the community facilitation of the WMA establishment process with the help of a number of PRA tools. The Bismarck-Ramu Group has also gained experience with the use of GPS and computerised mapping technology as a means to map land boundaries.

In 1997 both Laveape and Harroun produced unpublished step-by-step guides to WMA establishment. The Bismarck Ramu Group in the meantime is in the process of facilitating the establishment of a number of WMAs in the Ramu Valley through a drawn-out process of community consultations (See Lalley 1999, VanHelden forthcoming). It is on this variety of information that this section relies.

The development of WMAs consists of several steps, but always has to be grounded in the wishes of the involved landowners. Without a serious drive towards the protection and management of resources and land, WMAs (and conservation areas) are unlikely to be effective.

**Step 1. Reaching basic agreement:** In order to start the process of WMA formation, a group of landowners needs to agree that

- They want a WMA;
- Why they want the WMA;
- What the purposes of the WMA are;
- Where the WMA will be established; and
- How they are going to look after the WMA.

Among the reasons why resource owners may wish to establish a WMA are:

- To prevent the over-harvesting of animals and their products;
- To protect animals of cultural importance;
- To establish undisputed control over natural resources and land;
- To provide a place and rules for small-scale tourism and research activities; and
- To manage natural resources for sale, such as insects sold to an insect farm.

This is a process that may take a considerable amount of time and repeated visits and discussion. There is a serious risk that this process is rushed along by well meaning but target and policy/legislation fixated- outsiders, leading to conflict or misunderstandings and a loss of motivation at a later stage.

**Step 2. Establishing land boundaries:** This step consists of the identification of land boundaries with the help of the Department of Lands and the OEC. This can be cut short if a supporting NGO helps in boundary delineation with the help of GPS and computerised mapping technology.

During this step possible conflicts within the groups and between the group and their neighbours over boundaries and resource rights will have to be solved. The strategic location of WMAs and conservation areas and the demarcation of boundaries so as to avoid conflicts are important strategic issues in their own right. This is because the demarcation of land or marine boundaries may be difficult. Boundaries cannot be interpreted by strict lines of separation between two or more groups, but are often vague due to reciprocal use rights, which cover a variety of resources. Boundaries should thus more be seen as zones in which

the influence of one group grows while that of another wanes but are difficult to establish in great detail on the ground or in the water (Cf. Kinch 1999 on conflicts over outlying reef areas in Zone 1). The analysis of use and ownership rights and changes within the claims to such rights is an important aspect of social investigations necessary for the strategic positioning of possible WMAs.

Because the establishment of strict boundaries of a WMA would certainly lead to conflicting interpretations and conflicts with other groups, one may decide to resort to a combination of external and internal boundaries. External boundaries are those boundaries that are shared with groups not taking part in the WMA. These boundaries are open for debate, deliberately left vague and continue to be ruled by custom so as not to trigger conflicts. The internal boundaries are those that the clans who share in the WMA have in common. Those groups cooperate in the WMA, and are thus expected to be able to solve their conflicts. It follows from this system that the boundaries of a WMA should not coincide with the external boundaries of clans that do not participate, as that would make them subject to conflicting claims. Boundaries are first established in maps drawn on the ground, then transferred to paper and very gradually marked on maps with the help of a Global Positioning System. This process and the resolution of conflicts, including the marking of the WMA on the ground, are likely to take years.

**Step 3: Establishing institutions** The Landowners have to nominate a WMC to act as a decision-making body. The Committee has the right to make and enforce rules with regard to the taking of wildlife and may collect fines. A chairperson is appointed and becomes the main contact with the OEC. The OEC has to approve the WMC and its rules on how new members are chosen to serve on the WMC in the future. The WMC must appoint an agent to issue hunting licenses under the WMA rules and to collect fees. This is an unpaid job. The committee may also appoint rangers to enforce hunting rules. Both the agent and possible rangers are responsible to the committee.<sup>6</sup>

**Step 4: Developing rules and penalties:** The community and its WMC draw up rules that apply to their WMA. It is best if not just the management committee makes the rules and sets the penalties, but if the community as a whole is part of the decision-making and enforcement process. This increases the legitimacy of the WMC and the WMA, enhances a feeling of collective ownership and reduces the risk of serious conflict later on. The Bismarck Ramu Group may have useful experience in facilitating the process of rule making with local communities. These rules may cover:

- Areas and times where hunting is allowed or prohibited;
- Species or certain categories of species which may or may not be hunted;
- Hunting devices which may or may not be used;
- A prohibition of other forms of land-use; and

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<sup>6</sup> These provisions are a typical reflection of the Western concept of protected areas as a “playground for hunters”. They have little or no bearing on the situation in most Papua New Guinea hunting areas where outsiders are allowed to hunt through personal contacts and where there is little scope for collecting license fees and hunting royalties at the level of the community.

- If applicable they cover license fees, hunting royalties and their disposal.

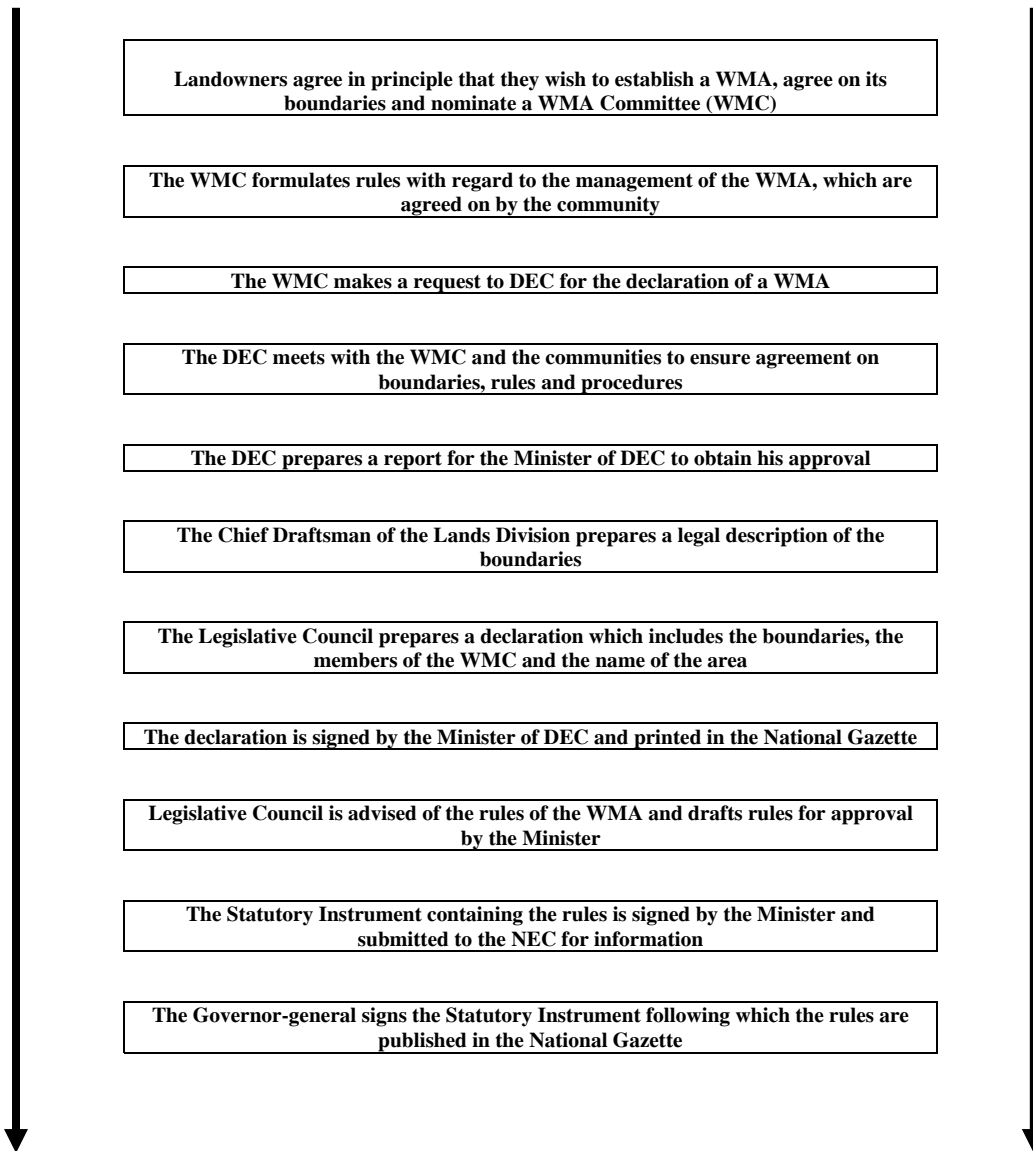
Although the *Fauna Act* is in the first place intended to look after wildlife, WMA rules do not have to be restricted to fauna only. All rules may be enforced by social control mechanisms, and sometimes more or less informal village courts, but only rules relating to the management of fauna can, – after Gazettal by the OEC – be enforced by recourse to the district and higher more formal courts. For examples of rules applying to marine WMAs, see Harroun (1997) and Jenkins (no date) on Sinub Island in Madang.

**Step 5: Confirming with Office of Environment and Conservation and Gazettal:** Once WMA boundaries have been identified, the WMC and its agent have been nominated, and agreement has been reached on the rules, penalties and enforcement procedures, the Minister of Environment and Conservation must be asked to declare the area in question a WMA. To submit the request the following information has to be included:

- A description of the proposed WMA and its boundaries;
- The names of the clan groups owning the area;
- The names of the WMC members and the agent;
- The name of the Local Level Government member;
- The proposed WMA rules and penalties; and
- The mechanisms for electing new members to the WMC.

It is likely that the OEC will have a meeting with the WMC and the community. Often, however, the department is hampered by a lack of funds. If all steps are approved, the OEC may give notice of the declaration of the WMA in the National Gazette. At this moment however, there is an enormous backlog in dealing with all the WMA requests, with the last WMA being gazetted in 1993. Many of the last gazetted WMAs have failed to submit rules of management to be gazetted as a separate statutory instrument, and are, therefore, not legally binding (See Appendix 8.4). The creation of a WMA by itself, without gazettal of rules, does not achieve any legally effective purpose (Whimp 1995). See Figure 2.

**FIGURE 2: SCHEMATIC OVERVIEW OF STEPS IN WMA DEVELOPMENT**



Source: Laveape no date (a.)

## 2.5. The Conservation Areas Act

The *Conservation Areas Act* (1978) regulates the formation of a National Conservation Council, which oversees the establishment of conservation areas in PNG. Section 17 of the act provides a mechanism not unlike that of WMAs under the *Fauna Act* to establish protected areas on lands under customary tenure, with the important differences that

- Under this act conservation is not restricted to fauna but may include all fauna, flora, biodiversity, habitat and scenery;

- The conservation area management committee of the conservation area, overseen by the Minister of OEC has the power to control developments within the area; and
- Resource owners and the OEC jointly manage the area, meaning that it does not only depend on the resource owners what happens to the natural resources within the conservation area. This allows the conservation area management committee to halt proposed development deemed inconsistent with the conservation management plan.

These characteristics make conservation areas a much stronger conservation tool than the earlier discussed WMAs. Unfortunately the act has never been implemented.

### 2.5.1. *The National Conservation Council*

The *Conservation Areas Act* came into force in 1978 but has since then never been applied to any area in PNG. This to the frustration of many, as the *Conservation Areas Act* constitutes one of the most promising mechanisms by which conservation objectives on customary held lands may be pursued.

The reason why the act has never been used lies partly with the need to establish a National Conservation Council. This five-member body was to be established under the *Conservation Areas Act* to advise the Minister on conservation issues, but was never appointed. At first this was the case because one of the members was to be appointed by the Local Government Association, a body that did no longer exist. An amendment to this effect was made in 1992, but no appointments to the National Conservation Council were made for unknown reasons. Whimp (1995) concludes that the reason for this state of affairs may be “somewhat deeper” than just of a legal technical nature.

In 1995 an advertisement was placed for council membership to which seventeen applicants responded. Only one of them had the “technical or special knowledge“ necessary for the job [Section 4.2]. In 1997 the New Organic Law again threw a spanner in the works. The *Conservation Areas Act* stipulates that one of the National Conservation Council members has to be nominated by the Premiers Council, which was, however, abolished as part of the recent *New Organic Law*, thus bringing the situation back to the pre-1992 situation when an amendment of the *Conservation Areas Act* was deemed necessary to deal with PNG’s rapidly changing political and institutional landscape.

The functions of the proposed NCC are:

- To advise the minister on conservation areas;
- To establish the criteria for the formation of conservation areas;
- To consider proposals for development affecting conservation areas; and
- To advise the minister of the formulation of regulations, etc.

Although until now it was assumed that without the National Conservation Council conservation areas could not be established (Harroun no date). Whimp (1995), on the basis of



the advice of the First Legal Council, argues that this is not the case. Since the National Conservation Council has no decision-making powers and is only an advisory body, its absence does not affect the legality of conservation areas established under the act. Part II of the act stipulates that the Minister of Environment and Conservation may recommend the establishment of an area of ‘particular biological, topographical, geological, historical, scientific or social significance’ [Section 12] as a conservation area to the NEC. Part II does not refer to the NCC as playing a role in this process.

It is, however, not clear whether this view is shared by the OEC, which still appears to consider the establishment of an NCC a prerequisite for the use of the *Conservation Areas Act*. In recent times there appears to be yet another move towards the establishment of the council, with positions advertised, but it is too early to know whether the council will indeed be appointed and, if not, whether the OEC is prepared and able to implement the act even without the establishment of an NCC. CI-PNG is keeping a close watch on developments as the Country-Director of CI-PNG is on the committee selecting the candidates for the NCC.

If Whimp’s (1995) point of view that the National Conservation Council is not essential to the application of the *Conservation Areas Act* is correct, this would imply that the road is open to gazettal of conservation areas under the *Conservation Areas Act* if the OEC: 1) has the political will to do so, 2) is provided with the required resources; and 3) is supported with the necessary technical and legal assistance.

If the first condition is met, this state of affairs may constitute a window of opportunity to the MBP to work towards establishing the first conservation area in PNG. The Provincial and Local-Level Governments (LLGs) supported by Conservation International would need to facilitate decision-making and implementation at the community-level, while the OEC would have to provide technical support and take on the legislative aspects.

#### 2.5.2. *Controlling Development Activities in Conservation Areas*

The great advantage of the conservation areas over WMAs is that the former explicitly provides for the restriction of development activities within the conservation area.

Upon establishment of a conservation area a so-called conservation area management committee is established under Section 25. Such a committee is to consist of no less than three persons who meet at least once every three months. The Committee represents the interests of local resource owners, the Local Government Authority or Local Government Council<sup>7</sup> and the provincial government. Under Section 27 the management committee has the task to

- Manage the conservation area and make recommendations to the Minister with regard to the rules that apply;

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<sup>7</sup> Both these bodies have been abolished under the New Organic Law. The *Conservation Areas Act* needs to be amended to reflect the new system of Local-Level Governments.

- Advise the minister on the co-ordination of developments within the conservation area; and
- Develop a management plan for the conservation area.

All of these functions are in the first place advisory as ultimately the Minister of Environment and Conservation decides on what to do, which rules apply and how to manage the area. In contrast to WMAs, government influence on conservation areas is thus much more considerable.

If the owner of the land, a developer or the state wishes to pursue development within the conservation area, they have to make a submission to the minister of environment and conservation to change the use of the area [Section 32]. If the minister wishes he may seek advice from the NCC or any other institution on the matter. The minister then may refuse or grant permission to develop the area according to the content of the submission [Section 34].

Breaches of rules established by the conservation area management committee are punishable with a fine of up to Kina 500. Significant alterations to the area that are not consistent with the management plan, or not granted permission for are punishable with a fine up to Kina 40,000.

While this appears a good system to control unwanted development in conservation areas, it is important to realise that Section 34 puts the Minister of Environment and Conservation in a rather lonely position. He is the only safety latch on destructive development within conservation areas and may come under severe political and social pressure to allow the development of conservation areas if other, more powerful economic or political interests pursue that option.

### 2.5.3. *The Practical Implementation of Conservation Areas*

The declaration of conservation areas entails a similar step-by-step process, which has been described by Whimp (1995), Harroun (1997) and Laveape of the OEC (no date (a)). In these descriptions the emphasis lies on the necessary documents and policy steps that need to be undertaken in order to get the area declared. The description hereunder emphasises the fact that the local community lies at the heart of the process of conservation area establishment, and that conservation area declaration should be seen as a formalisation of already existing agreements at the local level, which through declaration become strengthened. Conservation area declaration is important though, as it improves the safeguards on incompatible developments in the area and thereby the sustainability of the protected natural resource.

**Step 1: Decide on which area to declare:** Although formally the OEC may designate a certain area as a proposed conservation area, in practice it is much more sustainable to do so on the basis of a written request from landowners. Only when landowners are aware of the risks of environmental degradation, informed about the various conservation options available to them and willing and organised to go through the drawn out process of conservation area

establishment, is there basis to start the process of conservation area designation and declaration.

There is thus a lot of work to be done at the community-level before one arrives at the stage at which one can start thinking about conservation area declaration. The Bismarck-Ramu Group for example goes through a drawn-out process of community-consultations before trying to incorporate community-based conservation concerns into PNG conservation legislation with regard to WMA or conservation area establishment (Cf. Lalley 1999, Ellis 1999).

**Step 2. Collate basic information:** If one has an interested and willing community, asking in writing for the establishment of a conservation area, then the next step is to collate the available information on the area and its owners. In many cases this information has already been collected as part of the process of biological surveys, social feasibility investigations and community consultations. This information should at least cover:

- A biological inventory;
- A description of natural features of special significance;
- An inventory of the local population and land ownership;
- Information on local resource use; and
- The possible threats to these resources.

**Step 3. Determining the objectives and management of the conservation area:** If the OEC wants to pursue the conservation area then the next step is a series of detailed discussions with landowners to:

- Develop the objectives of setting up a conservation area. Possible alternative options such as a WMA should be presented;
- Involve LLGs and Ward Development Committees and establish linkages with the area management committees;
- Identify processes for deciding who will be on the management committee and how members are being replaced through time; compensation issues will play a role; and
- Prepare a draft management plan.

It is advisable that these issues are already talked through and agreed upon *before* the formal process of conservation area establishment is undertaken. These issues require an extended process of community facilitation in which local resource owners are taken through the various aspects of conservation area establishment, management and rule enforcement. Before getting to this stage serious conflicts have to be resolved, unrealistic expectations must have been defused and people need to be sufficiently organised, informed and motivated to develop the conservation area.

**Step 4. Survey the conservation area boundaries:** This step consists of the identification of land boundaries with the help of the Department of Lands and the OEC. This can be cut short if a supporting NGO helps in boundary delineation with the help of GPS and computerised mapping technology. During this step possible conflicts within the groups and between the group and their neighbours over boundaries and resource rights will have to be resolved. See also the section on boundary demarcation in the section on WMA establishment above.

**Step 5. Prepare a recommendation, give notice and allow for objections:** The OEC's intention to declare a conservation area has to include: 1) a description of area and boundaries; 2) an inventory of the population and land ownership; 3) the biological inventory results and the conservation needs and strategy of the area; and 4) the management objectives of the conservation area. Public notice is given of the intention to establish the conservation area allowing for a 90-day objection period, during which representations may be made to the Minister. Copies of the notice should be available at the OEC, the Provincial Government and Local Government offices. On the basis of the received comments and objectives the OEC decides whether to proceed with declaration of the conservation area.

**Step 6. Recommendations to NEC and Head of State:** When proceeding, the OEC submits its recommendation for the declaration of the conservation area to the NEC, which if approved, recommends the official declaration to the Head of State in the National Gazette.

**Step 7. Management committee appointed and management plan approved:** Once the conservation area has been declared the minister appoints a conservation area management committee consisting of local resource owners and representatives of the OEC. The conservation area management committee formalises the draft management plan and rules prepared under step 3. These need to be approved by the Minister of OEC to come in force. Most important is that the conservation objectives and their relative priorities must be clearly negotiated and established beyond doubt with the local community *before* the conservation area is declared. The amount of facilitation required at the community level before the start of the declaration process, especially during step 3, but generally throughout the whole drawn-out process, is considerable.

For a listing of all the available legislative tools for area based conservation see table 1 below.

**TABLE 2: MATRIX OF AREA-BASED CONSERVATION OPTIONS UNDER VARIOUS PAPUA NEW GUINEA ACTS**

<b>Options for Reservation</b>	<b>Applicable Act</b>	<b>May protect</b>	<b>Land ownership</b>	<b>Management/enforcement</b>	<b>Applicable to marine resources?</b>	<b>Is hunting /fishing allowable?</b>	<b>Level of protection</b>
<b>National Park/ Nature reserve</b>	<i>National Parks Act</i>	All biodiversity and scenery	Government	Government	Probably	No	High
<b>Fauna Sanctuary</b>	<i>Fauna Act</i>	All fauna	Landowners or Government	Government	Yes	No	High for fauna Low for flora
<b>Protected Area</b>	<i>Fauna Act</i>	Selected fauna	Landowners or Government	Government	Yes	Within regulations set by OEC	High for some fauna. Low for flora and other fauna
<b>Wildlife Management Area</b>	<i>Fauna Act</i>	Selected fauna	Landowners	Landowners/ Government in WMC	Yes	Within regulations set by WMC and OEC	Variable for fauna; Low for flora
<b>Conservation Area</b>	<i>Conservation Areas Act</i>	All biodiversity and scenery	Landowners or Government	Landowners/ Government	Yes	Within regulations set by OEC and resource owners	Variable

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<b>Section 30</b>	<i>Fisheries Management Act</i>	All marine biodiversity and scenery	Resource owners	Resource owners	Yes	Within regulations	Variable
<b>Conservation Deed</b>	<i>Law of Contracts</i>	Wide range of possibilities	Resource owners	Resource owners	Yes	Within regulations set by the deed	Variable
<b>Provincial Parks and Reserves</b>	New Organic Law section 42	Unclear as no legislation has been developed	Landowners or Government	Unclear	Probably	Unclear	Unclear
<b>Local-level Government laws</b>	New Organic Law section 44	Unclear as no legislation has been developed	Landowners or Government	Unclear	Probably	Unclear	Unclear

Source: Adapted from Ellis 1999 and Whimp 1995.



### 3. PAPUA NEW GUINEA FISHERIES LEGISLATION

This chapter provides an overview of the present fisheries legislation and the resulting provincial management plans developed in Milne Bay Province. These legislative tools are rather new, as the *Fisheries Management Act* was approved and gazetted only in 1998, but appear to offer some interesting possibilities to regulate the catching of and trading in marine resources. As with conservation legislation, the main difficulties lie not in developing and improving legislation, but in implementing and enforcing the available regulations. Even though the act is very new, the NFA is already considering a review of this legislation.

#### 3.1. The Fisheries Management Act

*The Fisheries Management Act* of 1998 replaced the *Fisheries Act* of 1994. The act is set up broadly and regulates the operations of the newly established NFA. Section 25, listing the objectives of the NFA, shows that the authority not only aims to promote the optimal utilisation of PNG's marine resources for the long term sustainable development of the country, but also explicitly mentions its aim to "protect the ecosystem as a whole" and "preserve biodiversity". As such the NFA appears to fill a gap within the existing conservation legislation described above, which, with the exception of the *Fauna Act*, appears to be mainly geared towards the conservation of terrestrial species and habitats.

The basic definitions of the *Fisheries Management Act* are wide. Fish for example are very broadly defined as "any water-dwelling aquatic or marine animals or plant, alive or dead, and includes eggs, spawn, spat and juvenile stages, and any of their parts". This definition does not include whales. Whaling is regulated under the separate *Whaling Act (1976)*.

The provisions of the *Fisheries Management Act* are further defined in the *Fisheries Management Regulation 2000* which regulates licensing, trading, fee structures, reporting, transshipment, port calls, export requirements marking and electronic monitoring. In addition it lists the offences and penalties under the act. The regulation has little bearing on artisanal fisheries and generally lies outside the scope of the MBP.

##### 3.1.1. Long-lining in Milne Bay

Fisheries legislation relevant to Milne Bay Province falls into two key areas:

- 1) The regulation of long-lining fishing activities by registered and non-registered fishing vessels within the Milne Bay Archipelago, and;
- 2) The control of the buying and export of high value fish and shell such as beche-de-mer, trochus shell, blacklip and clams.

I will begin with the first issue, which appears to lie outside the immediate scope of the MBP. The following section will deal with artisanal fishing for sedentary species.



In terms of both its economic loss and conservation impact the widespread pelagic fishing is the most important issue. Breaches of PNG fisheries management legislation are continuous and take place on an enormous scale due to the lack of enforcement capability of the national and provincial fisheries authorities. These breaches consist of:

1. **Fishing without permits:** A recent aerial survey by the Australian Defence Force counted no less than 38 fishing vessels within the Milne Bay Archipelago of which at least half were thought to be without license (Personal communication John Luke Critin). While talking to the provincial fishing officer, a report was received of a fishing vessel registered in Oro Province fishing in Milne Bay waters.
2. **Sharing permits:** Fishing vessels leaving PNG waters are known to pass their registration papers and number onto incoming vessels allowing fishing companies to maximise their returns from a single permit by having more than one vessel operate under the permit.
3. **Long-lining in shallow waters:** long-lining permits to catch tuna are misused to fish for shark fins in shallow waters as this high-value product is in much demand. Although shark may show up as a by-catch on ship logs, some ships have been found to have almost exclusively shark on board. In doing so vessels often intrude on the three-mile distance they have to remain from land thereby affecting reef systems. On and around Brooker Island, no less than three long lining vessels ran onto the reef over the year 2000. These vessels tend to get pillaged by local communities and have been found to have large amounts of shark fins and beche-de-mer in their holds (Personal communication Kinch).
4. **Purchase of fish and shell without licenses:** Vessels are known to purchase beche-de-mer, clams and other marine produce from local villagers without the required licenses. The TAC of beche-de-mer, thought to ensure sustainability in MB waters, is no doubt greatly exceeded. Until this type of smuggling ceases there is little chance for TAC regulations to be effective.
5. **Illegal transshipment:** Vessels are known to tranship their illegal catch onto other vessels before offloading in PNG harbours or before inspection.

These issues, are a source of frustration for the Milne Bay people and their leaders who see outsiders take massive amounts of resources with very little or no benefits flowing from these activities. The attitudes of local people towards these outside vessels however are ambivalent. Vessels running ashore are systematically plundered. On the other hand vessels visiting islands may engage in trade with and purchase sedentary resources from local people (Kinch 1999).

The Provincial Government of Milne Bay is extremely concerned with the matter but has few tools to do anything about it. In May 1997 the Provincial Government enacted a so-called *Archipelagic Commercial Fishing (Milne Bay Waters) Prohibition Act* with the aim to simply ban all long-lining activities in the archipelagic waters of Milne Bay within a zone of 12 nautical miles. This provincial act was legally inconsistent with the *Fisheries Act (1994)*, which puts the right to regulate pelagic resource, with the national government, therefore technically invalidating the act. The act, however, was in the first place used to make a

statement vis-à-vis the National Government, which was not doing enough to control fishing activities in Milne Bay waters.

At the same time that the MBPG is trying to alert the GOPNG to the need to control the archipelagic fishing it is also aiming to establish a local tuna canning industry.

### *3.1.2. Limited Options for the Improvement of Control over Pelagic Fishing*

The ongoing intrusions in Milne Bay waters reduce the economic benefits derived from fishing to the nation, affect the livelihoods of local people and deplete archipelagic resources. The NFA in Port Moresby is taking a number of steps to regulate the activities of fishing vessels in PNG waters. Under the new fishing legislation all vessels are to carry an observer on board and are equipped with an Automatic Location Communicator (ALC), which feeds into a computerised Vessel Monitoring System (VMS). Notwithstanding these measures enforcement remains limited especially with regards to outside unregistered vessels, which simply enter PNG waters without penalties. The NFA relies on the PNG Defence Force for its patrol activities, but in recent months its planes have been grounded, while its boat patrols are limited to a Kavieng-Port Moresby run every few weeks.

The MBP, focusing on the conservation of in-shore marine resources is not likely to be able to make the type of monitoring, surveillance and interception capabilities required for the control of offshore fishing a main part of its program. Probably the main contribution it could make is to sensitise people, dive boat operators and the licensed fishing operators to the importance of registering intruding vessels and to help establish improved radio communications to alert the NFA to the fact that such intrusions are taking place. In addition the project could aim to improve the legal skills of the Provincial Officers involved in fisheries monitoring

With the exception of illegal shark catches and the possible smuggling of controlled sedentary resources by intruding long-liners, these activities appear not to immediately affect inshore sedentary marine resources, thus not directly affecting the aim of the MBP to protect reef and inshore marine systems.

### *3.1.3. Using International Treaties*

During the discussions held as part of the PPNA workshop, the idea was brought up that some of the international treaties summed up in paragraph 2.2 could be used to increase the protection of marine areas from raiding fishing vessels. Gai Kula mentioned the UNESCO World Heritage Convention, suggesting that groups of Milne Bay islands such as the Conflict Group or Bramble Haven in Milne Bay could be listed for World Heritage status. This would not immediately improve the enforcement of fisheries and conservation legislation within those areas but would be a high-profile move, which would allow for diplomatic pressure on those countries and fleet-owners whose ships are intruding on these zones. In the Solomon Islands the small group of Rennell islands have been proposed as a World Heritage Site creating a precedent that the MBP could possibly tap into (personal communication Jeff Kinch).

### 3.2. Regulating Artisanal Fishing

*The Fisheries Management Act* is mainly aimed at defining the roles of the NFA and at regulating the taking of fish from PNG's coastal zones by outside fishing vessels. Section 3 (2) states that unless otherwise stated, the act does not apply to the taking of fish a) for personal consumption, b) for sport or pleasure, c) for customary fishing, or d) for artisanal fishing. Section 26 states that the rights of customary owners of fisheries resources shall be recognised and respected.

The sections that apply to coastal and artisanal fishing, however, provide suitable tools for the regulation of artisanal fisheries. Section 1 of the act defines artisanal fishing as "fishing by indigenous inhabitants in fisheries waters where they are entitled by custom or law to fish, where

- a) The fish are taken in a manner that, as regards the vessel, the equipment and the method used, is in accordance with their customary traditions or is small-scale and individually operated; and
- b) The fish are taken for household consumption, barter, domestic market trade, or sale to a person licensed as a fish buyer under the act.

#### 3.2.1. *Restricted Devices under the Fisheries Management Act*

Section 32 of the *Fisheries Management Act* prohibits the use of explosives and poisons. These methods are deemed harmful, as they are non-discriminatory, killing juvenile and non-edible fish next to the targeted catch, and highly damaging to the reef habitat. The use of explosives is also highly dangerous to the fisherman himself, a point stressed during awareness campaigns. Traditional poison roots used to kill fish are also prohibited under the act. It is not clear if the present wording is effective, as there appears to be an omission in Section 32 (1), which may invalidate the intention of the act in this regard (See Paragraph 5.1.4).

The use of sodium cyanide for the live fish trade is also prohibited. This chemical is used to daze live fish, but often kills the target species as well as many others. Live fishing activities took place around the Trobriand Islands, causing extensive damage to reef systems. These activities have now been closed down. The NFA is piloting studies in Manus and Kavieng into less damaging ways to capture fish for the live fish trade. In 1997 a draft *National Live Fish Reef Fisheries Management Plan* was drawn up.

Apart from the general stipulations restricting devices, there are a number of mechanisms which allow for province-wide or localised conservation of marine resources.

#### 3.2.2. *Restricted Species under CITES*

Papua New Guinea is a party to the Convention on the International Trade in Endangered Species (CITES) since 1976. This convention prohibits or restricts the trade in endangered

species. CITES Appendix I lists those species in which trade is totally prohibited. Appendix II lists those species that can only be traded under certain conditions and with a permit by the OEC. The *International Trade (Fauna and Flora) Act* restricts and regulates the export of CITES listed species.

Notwithstanding its listing under Appendix II of the CITES prohibiting the harvesting and export of Giant Clam since May 1983 and all other *Tridacnidae Spp.* since 1985, unless derived from a farm or ranch and under permit, Milne Bay has virtually depleted its clam stock (Werner and Allen 1998; See CITES annex to PPNA). Poaching by Taiwanese fishing vessels and harvesting by the Milne Bay Fisheries Authority of more than 200,000 specimens under an IFAD-sponsored programme depleted the stock.<sup>8</sup> In Milne Bay clam fishing stopped in 1988. Since 1995, however, harvesting by the Nako fishing company has again affected the species (Mitchell 1999, Mitchell, Kinch and Seta 2000). The OEC mistakenly gave a permit for the export of clam mussels, even though such was clearly in breach of CITES (*The Eastern Star* 23 October 2000).

In some localities the disappearance of clams has led to conflict with dive operators, as they tended to go with their guests to these localities to see the giant clams, but now see the main attraction gone. The response by the fishing companies is that if the dive operators cannot make communities benefit from their presence they should not expect these communities to look after natural resources for them. This in essence is the whole predicament of conservation in PNG.

### **3.3. Section 28: Provincial Fisheries Management Plans**

Artisanal fishing can be regulated at the provincial level under Section 28, which gives the NFA the right to draw up Fisheries Management Plans in respect of any fisheries resource. This section has recently been used to develop fisheries management plans in relation to Beche-de-mer and prawns in a number of provinces. Section 28 (3) of the *Fisheries Management Act* determines that a Fisheries Management Plan shall:

- (a) Identify the specific fisheries and its characteristics, including its current state of exploitation. The latter stipulation points to the need to make informed decisions on the basis of comprehensive stock assessments;
- (b) Specify the objectives of the management plan;
- (c) Identify adverse impacts of the operation of fishing activities; and
- (d) Identify, where applicable, the relevant customary fishing rights and practices.

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<sup>8</sup> According to the Federal Register of the US Fish and Wildlife Service, internationally abundant populations of giant clam are known only in Australia and the Solomon Islands. The species is considered extinct in Fiji, Guam, New Caledonia, and the northern Marianas, and has been eliminated from most of the Federated States of Micronesia, Japan, the Philippines, Taiwan, Tuvalu, and Vanuatu.

Such fisheries management plans were also possible under the repealed *Fisheries Act* of 1994, leading a number of provinces to develop beche-de-mer and prawn management plans during the 1990s. These plans have in common that they aim:

- To ensure that fish off-take is in line with a maximum sustainable yield to ensure a continued income for artisanal fishermen;
- To encourage self-regulation through traditional management practices; and
- To take a precautionary approach to fisheries management in the absence of clear scientific data.

At this moment there is a great dearth of information on the status of sedentary fish resources in Milne Bay province and few scientific data to establish the level of the TAC that would be scientifically responsible. This field is one of the main issues in which the NFA would like to co-operate with the MBP. There are at this stage no management plans for such valuable sedentary sources as trochus and blacklip shell. A Milne Bay Clam Fishery Management Plan was drawn up in 1998, but not approved by the NFA.

A Fisheries Management Plan is generally submitted by the Provincial Fisheries officer after approval by the PEC, needs to be endorsed by the National Fisheries Board (NFB), is signed by the Minister for Fisheries and becomes law upon gazettal. Section 28 can also apply to areas other than the provinces. An example is the draft *National Live Fish Reef Fisheries Management Plan* that was drawn up in 1997.

### 3.3.1. Provincial Beche-de-mer Management Plans

The beche-de-mer management measures taken by the provincial Governments of Milne Bay, New Ireland and Western province consist of:

- **A licensing arrangement:** This arrangement limits the number of legal buyers and exporters of beche-de-mer. This is because the fishing itself is impossible to regulate, forcing the province to regulate the trade as a proxy for the actual fishing;
- **Size limits:** The management plan establishes both a live and a dried minimum size limit on species eligible for capture according to species-specific criteria;
- **Gear restrictions:** The management plan restricts the gear used by prohibiting scuba and hookah gear as well as the use of surface lights;
- **Species Restrictions:** The Provincial Government reserves the right to restrict the harvesting of species on an annual basis;

- **Total Allowable Catch (TAC):** The plan established a TAC, or multiple TACs for species, or classes of species of beche-de-mer, to ensure that the maximum sustainable yield is not exceeded. Fishing is to cease when the TAC has been reached and will recommence on opening of the new fishing season;
- **A Closed Season:** The plan stipulates a compulsory closure of the fishing season, terminating all harvesting, selling and storage. For beche-de-mer this season generally constitutes three months running from October/November to January/February; and
- **Marketing:** The province monitors and regulates the catch, processing, packaging and marketing of the end product.

### 3.3.2. *Provincial Prawn Management Plans*

Orangerie Bay in Milne Bay Province and the Gulf of Papua are key locations for the prawn fisheries, which are also regulated under Section 28 of the *Fisheries Management Act*. This does not entail diffused artisanal fisheries, but rather a limited number of operators using larger vessels. The basic provisions however are similar, aiming to manage resources for the long term on the basis of the precautionary principle. The various management measures consist of:

- Limiting operators to a number of nationally owned companies;
- Restricting the size and engine power of the vessels involved;
- Stipulating the characteristics of the fishing gear;
- In the case of the Gulf of Papua, the management plan stipulates an alternating system of times area closures; in Milne Bay a TAC is applied; and
- The marketing and export of the prawns.

These plans may be drawn up by the Provincial Fisheries Divisions, need to be approved by the NFA, endorsed by the NFB, signed by the Minister and gazetted in order to become law.

### 3.3.3. *The Politics of the 2001 Milne Bay Beche-de-mer Management Plan*

Notwithstanding the good intentions of these plans their applicability in practice appears limited. Western Province and Manus have basically seen their beche-de-mer resource fished out and it appears that Milne Bay is embarking on a similar course. In Milne Bay Province the TAC for beche-de-mer has been exceeded time and again without leading to the closure of the fishing season as stipulated by the management plans (Kinch 1999).

In recent months politicians and traders have put pressure on the NFA to approve a beche-de-mer plan with a significantly shorter closed season and an elevated TAC. The argument behind the original closed season between October and February is that beche-de-mer spawn during that season and that fishing affects the reproductive rate of beche-de-mer. This closed season however, runs in contradiction with the cyclical need for income by many fishing communities. These need income to celebrate Christmas, offset their social obligations and pay school fees in the beginning of January. The costs of schooling have increased significantly over the last few years, partly due to the application of the user-pay principle under World Bank-led reforms. Local politicians feeling the need to give their people a “Christmas present” called for an early start of the fishing season. To local beche-de-mer traders there is an additional incentive to call for the early opening of the fishing season as they mainly serve the Chinese market. During Chinese New year in January demand and prices for beche-de-mer are higher than usual providing a powerful inducement to shorten the closed season.

Even though the NFA is an independent authority and realises full well that this is a dangerous course to take, it was not able to withstand the resulting political pressure and agreed to open the fishing season in Milne Bay on the 15<sup>th</sup> of December 2000. In addition, it maintained the existing TAC of 60 tonnes on high valued beche-de-mer species but added a second schedule of low value species with a TAC of 80 tonnes.

In doing so Milne Bay follows the course of the Philippines and Indonesia and in-country of Manus and Western Province, where sedentary fishing resources of high value were the first to be fished out, followed by a depletion of lower value species. According to the sedentary fisheries manager of the NFA it is, in line with the principles of the New Organic Law, up to the Provinces themselves if they wish to use their resources for the long term benefit of their populations or whether they embark on a short term course of rapid resource depletion.

This situation underlines the urgency to create awareness over fisheries and marine management at both the community and the political level. Fortunately the *Fisheries Management Act* provides a tool by which at least local communities, aware of the need to manage resources, may regulate their own fishing, close off areas on a permanent or rotational basis thus ensuring the sustainability of fishing incomes and hopefully the conservation of marine biodiversity at the same time.

#### 3.3.4. *Fisheries Management Act to be Reviewed*

Recent disappointment with the functioning of the provincial management plans, the high influence of local politicians and the resulting lack of sustainability in the off-take of sedentary resources has led the NFA to instigate a review of the *Fisheries Management Act*. This legal review will not only deal with the set-up of the act, possible internal inconsistencies and loopholes (see paragraph 5.1.4) but is also likely to include a partial reversal of Section 28, bringing the powers which under the 1998 act were delegated to the provinces back to the national level (personal communication Sachi Wima).

The basic idea is that the provinces through their Fisheries Management Committees will advise a National Fisheries Advisory Committee within the NFA on the levels of catch and management of specific resources, leaving the final decision to the NFB, thereby reducing the

level of influence of local politics and hopefully improving the quality of the management plans. The subsequent enforcement obviously remains an issue to be dealt with (see paragraph 5.2). One cause of concern is the possibility that a blueprint plan will be drawn up for the whole of PNG and imposed on all Maritime Provinces regardless of the resource situation in the respective provinces (Personal Communication Pam Seeto). The effect that this review will have on the options for conservation available to the MBP is difficult to assess and will need to be followed closely.

### **3.4. Section 30: Options for Local Marine Conservation Regimes**

Section 30 (3) of the *Fisheries Management Act* offers a number of interesting options for the conservation of marine resources under customary tenure. The Nature Conservancy in PNG has used this section to close 8 reefs in Kimbe Bay. Unlike the provincial management plans (See below) which cover the entire province, this section allows for highly localised conservation measures.

Under Section 30 (3), following gazettal on recommendation of the Managing Director of the NFA, the act may:

- Prohibit at all times, or during a specified period, the taking of fish or crustaceans [Section 30 (3) (b)];
- Restrict the dimensions of fish that may be caught [Section 30 (3) (c)];
- Restrict the gear, devices and vessels with which fish may be caught [Section 30 (3) (d i and iii); (f); (g)];
- Restrict the people or class of people that may fish [Section 30 (3) (d ii)];
- Prohibit the buying, landing, and selling of specified fish [Section 30 (3) (e)];
- Prohibit or restrict the conduct of any specified activity, or such activities as may be prescribed from time to time [Section 30 (3) (i); (j)];
- Prohibit the taking of protected or endangered fish [Section 30 (3) (j)].

These very broadly formulated regulations allow for the development of detailed localised fisheries management areas/marine protected areas, which could prove useful to the MBP. See Appendix 8.9 for a schedule such as that used by TNC and the NFA to gazette such areas in Kimbe Bay.

In many ways such section 30 areas resemble WMAs. They are flexible regimes covering customary resources and allow for detailed management plans. WMAs are in some way more secure due to the fact that they are dependent on a clear assessment of resource ownership and land boundaries, while areas stipulated under Section 30 (3) of the *Fisheries Management Act* do not have such a requirement. This means that basically anybody can ask the NFA to



foreclose certain reef areas whether they are clearly owned or not. The steps taken to establish a WMA are however longwinded and difficult to implement due to the difficult situation within the OEC. There is a serious backlog of dealing with the applications, drawing up the boundary surveys, gazetting the rules and few funds to meet with landowners.

As a result, taking a community-based approach to conservation and fisheries management based on section 30 (3) of the *Fisheries Management Act* may seem most fruitful to the MBP in the short to medium term. If necessary, ownership issues could be straightened out by recourse to the *Land Groups Incorporations Act (1974)*.

#### 3.4.1. *The Land Groups Incorporations Act (1974)*

*The Land Groups Incorporations Act (1974)* allows customary resource owners to register their traditional social unit as well as their land, waters and boundaries by law. This is usually a lengthy process in which membership of clan groups has to be established through mutual recognition and the drawing up of genealogies. Outstanding land conflicts with neighbouring groups have to be resolved and the boundaries of landownership have to be established. Once this is done, the landowner group is registered with the Registrar of Customary Land and acquires a corporate status with its natural resources as its assets, the use rights and dividends of which are still distributed as under customary law. The act allows incorporated landowner groups (ILGs) to hold, manage and deal with their land and resources and provides a vehicle to deal with other national and international corporations.

The difference between ILGs and the much more often encountered landowner companies is that the former necessarily represent *all* traditional landowners as shareholders in one corporate body, while the latter can be formed by a few individuals who sometimes present themselves as the rightful owners of the resource, bypass customary law and community decision making procedures and squander their clan's natural resources. This, however, does not mean that all members of an ILG are equal shareholders and have equal access to the benefits and dividends from the use of their resources. The decisions that are made and the distribution of benefits take place under customary law and may favour one group of stakeholders within the clan over the other. Important to realise is that the incorporation process is a double-edged sword: It can not only be used to include people and give them secure rights to the use and management of their resources, but may also marginalize people that used to have usufruct rights to resources, triggering serious conflict when social boundaries harden to the extent that certain groups find themselves excluded.

## 4. LOCAL GOVERNMENT UNDER THE NEW ORGANIC LAW

### 4.1. The New Organic Law

Until 1995, PNG had three tiers of elected government, consisting of Local Government Councillors, Provincial Members and National Members of Parliament, with parallel administrative organisations at the district, provincial and national government levels. At the lowest of these three levels, Milne Bay Province consisted of four districts, each of which was in turn made up of a number of Local Government Councils.

In the 1960's the Australian Administration created these Local Government Councils with the aim to educate villagers in the workings of democracy, while also serving as a local-level mechanism to foster rural development. Each council consisted of a number of elected councillors representing the various communities and an elected president. The Local Government Council worked closely together with the appointed District Manager, and was assisted in its work by village magistrates and committee members. After Independence in 1975, this system was consolidated in the *1977 Organic Law on Provincial Governments*.

Under the Local Government Council system, the District Manager and the Local Government Councils were to work closely together with the Provincial and National Governments in the planning and execution of development activities. The three-tiered government system, however, was expensive and cumbersome and failed to provide much needed services to the rural areas. Money made available at the top often did not reach the district levels, and the needs of the National Government and the urban population, rather than those of the rural population, dictated priorities. In addition, the separate development of administrative and electoral systems led to a situation where district and council boundaries were not always coterminous, which constituted an ongoing source of confusion.

In 1995, National Parliament amended the constitution and passed the *Organic Law on Provincial Governments and Local-level Governments (OLPG&LLG)*. This law replaced the *1977 Organic Law on Provincial Governments*. The aim of the new act is to improve the delivery of services to the rural areas through a process of decentralisation, putting more responsibilities and funds in the hands of the newly formed Local Level Governments, which are more likely to be responsive to local people's needs and wants. Part of this process is the drive to cut back on staff numbers within the central government departments, relocating civil servants from the urban to the rural areas. These reforms reduced the number of elected tiers of Government to two.

#### 4.1.1. *The Political Structure of the Provincial Government*

Under the *OLPG&LLG* the provincial Government and Administration now consist of a number of bodies and positions, which will be dealt with in this section. The administrative functions of the provincial government have been detailed in the *Provincial Governments Administration Act (1997)*.

**The provincial assembly:** The Milne Bay Provincial Government is no longer elected separately but is now made up of the five National Members of parliament, the heads of the

16 LLGs in the province and a number of appointed members from women's, youth and church groups. Local representatives have a far greater influence than under the previous system. All members have voting powers and the Assembly has to meet at least four times a year. The provincial assembly has lawmaking powers on a wide range of issues.

**The Provincial Governor:** The Provincial Governor is the Regional Member of Parliament and serves as chairman of the assembly. The Deputy Governor is elected from among the heads of the LLGs.

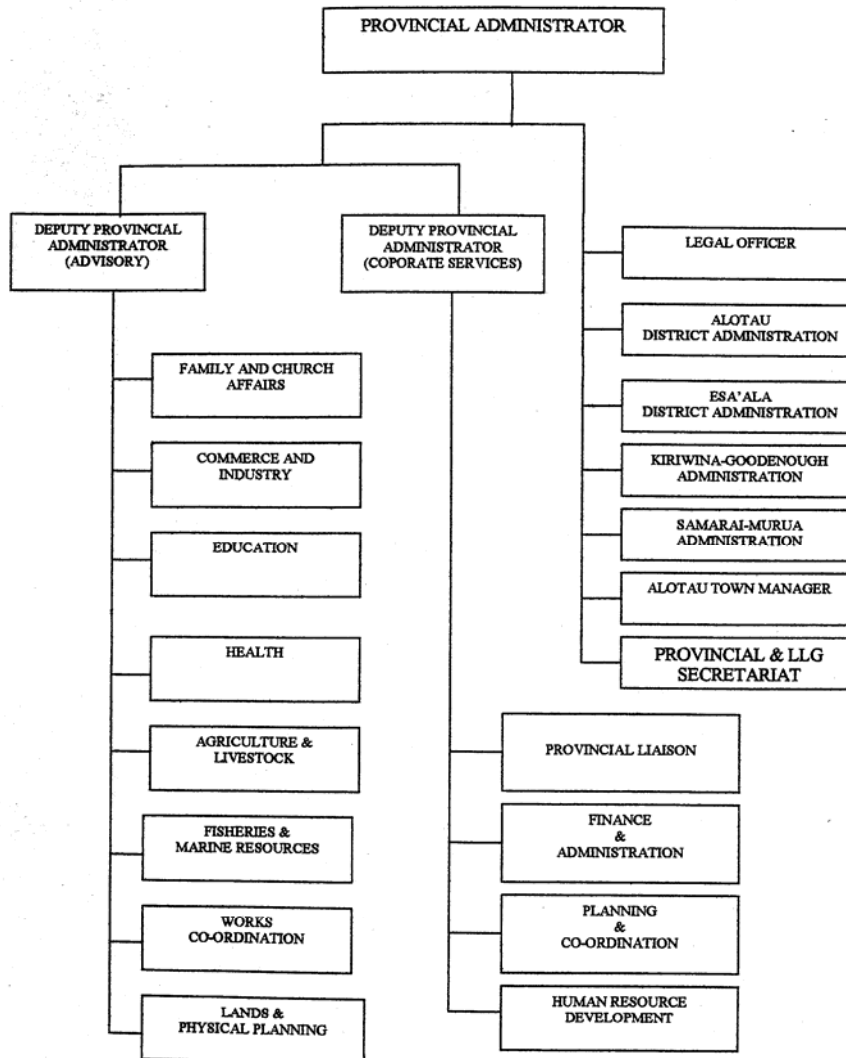
**The Provincial Executive Committee** is the executive arm of the provincial assembly. The PEC consists of the Governor, the deputy Governor and the Provincial Treasurer and the chairpersons of a number of thematic committees. The PEC is responsible for the implementation of the laws and policies handed down by the Provincial assembly and the national parliament.

**Assembly Committees:** The Milne Bay Provincial Assembly has seven committees dealing with specific issues, covering issues such as health, education, law and order and finance. The Provincial assembly can name its own committees, and the Milne Bay Assembly could, for example, appoint a committee dealing with conservation issues. A key committee required under law is the joint Provincial Planning and Budget Priorities Committee. Project related issues concerning conservation, fisheries and tourism are in Milne Bay divided over no less than three different committees. (Cf. Mitchell, Kinch and Seta 2000)

#### *4.1.2. The Administrative Structure of the Milne Bay Provincial Government*

All above-mentioned functions are political. The most important administrative figure is the Provincial Administrator who is responsible for enacting the policies handed down by the provincial and national politicians. He runs the provincial civil service, and is responsible for reporting and liaison. Two deputies and four district administrators support the Provincial Administrator.

FIGURE 3: STRUCTURE OF THE MILNE BAY PROVINCIAL ADMINISTRATION



Source MBPG Corporate Plan 2001-2005

The administration itself consists of three administrative and eight sectoral divisions of which the Fisheries and Marine Resources Division and the Agriculture and Livestock Division are the most important to the MBP project.

The Milne Bay Visitors Bureau (MBVB) functions as a sort of quasi-governmental division, even though it was established as a corporate body governed by a board under a provincial act in 1985, with the aim to promote Milne Bay as a tourist destination. The bureau works together with the national Tourist Promotion Authority in Port Moresby but suffers from a lack of funding to do its work. The MBVB would like to engage in village outreach programs to improve local people’s understanding of the tourist business. The upgrading of Alotau airport to the status of International Airport has given tourism a boost, but in recent months

direct flights to Australia have been suspended due to a lack of financial viability. Most of these foreign visitors come for dive excursions, the dive boat industry being one of the key tourist attractions in Milne Bay.

There is a single fisheries inspector in the provincial Department of Fisheries and Marine Resources to inspect the adherence to fisheries regulations in the whole province. Given that the budget for inspection activities for 2001 stands at Kina 11,000 (\$US 4000), it is not surprising that fisheries monitoring activities are generally limited to certifying export shipments. Similarly there is only a single provincial officer for Environment and Conservation issues in the whole province. Strengthening these divisions could pay major dividends in terms of conservation.

## **4.2. The set-up of Local-Level Governments**

The New Organic Law on Provincial Governments and LLGs has not changed the number of Milne Bay districts and electoral constituencies. Where necessary boundaries were redrawn to match the administrative and electoral systems. The law came into effect in October 1997 when elections for the councillors of the new LLGs were held. Each of the 89 districts in the country now consists of three to four LLGs.

### *4.2.1. The District Administration*

The districts play a crucial role in the New Organic Law, as they constitute the forum where bottom-up planning processes within the LLGs link up with the provincial administration. It is at the district level that the funds made available to provinces and the LLGs are used to implement the plans, policies and laws of the various LLGs.

A District Administrator responsible to the Provincial Administrator leads the districts and is also the Chief Executive Officer of the LLGs. The District Administration supports the LLGs within the district prepare a five-year District Development Plan and, through its Joint District Planning & Budgeting Priorities Committee, distributes the available funds among the various LLGs.

The District monitors LLG performance and finances, collects data and maintains financial records. The District also provides health services and extension and support services in the fields of agriculture, fisheries, commerce and industry, environmental management and women and youth services. It is explicitly not the intention of the New Organic Law that various bodies of Government deliver all services themselves. They are stimulated to contract specialised bodies to deliver services, with the government bodies at various levels play a contracting and monitoring function.

Unlike the case with the previous Local Government Council presidents, the presidents of LLGs are not elected directly, but chosen from among the ward councillors. The presidents of the LLGs become members of the provincial assembly. The lawmaking arm of rural LLGs consists of the president and all ward councillors plus two women's representatives.

**TABLE 2 : DISTRICTS AND LOCAL-LEVEL GOVERNMENTS IN MILNE BAY PROVINCE**

<b>District</b>	<b>Local-Level Government</b>
Alotau	Daga, Suau, Makamaka, Weraura, Huhu, Alotau urban
Esa 'ala	West Fergusson, Dobu, Duau
Kiriwina	Kiriwina, Goodenough
Samarai	Louisiade, Yeleyemeba, Bwanabwana, Murua

Source: Mitchell, Kinch and Seta 2000

Each LLG in turn is divided into a large number of wards. The country now counts 5,747 wards, an average of 20 per LLG. The differences in the number of wards per LLG however are large. Some LLGs have 4 wards, others 40. Each ward in turn may cover a number of villages, hamlets, clans or other social groupings.

In many areas of the country, wards have their own Ward Development Committees (WDCs) to help define and solve problems. Unlike the LLGs the WDCs do not have law-making and law-enforcing powers. Milne Bay counts four districts, which in turn hold 16 LLGs, of which one is the urban LLG of Alotau. These 16 LLGs encompass 395 wards and some 753 communities.

Local-Level Governments have the right under section 25 of the Organic Law to establish Government committees tasked with certain duties. Thus LLGs interested in conservation could set-up a Conservation Management Committee responsible for monitoring conservation-related activities within the LLG.

#### 4.2.2. *The Ward Development Committees*

The *Local Level Governments Administration Act* of 1997 stipulates that each Ward shall have a so-called WDC consisting of the member for that Ward, who sits on the Local Level Government and up to five associate members appointed by the members of the Ward [Sections 26 and 27]. Of these five positions women will fill at least two. These positions are without remuneration [Section 33]. Section 34 of the *Local Level Governments Administration Act* stipulates that the functions of the WDC are to:

- Be the main advisory unit representing the Ward at the level of the LLG; and
- To determine the needs of the Ward in terms of services, programmes and infrastructure;

The Wards often reflect communities, or clan groups on a one to one basis, thus making them more or less representative of community interests. This makes the WDCs an interesting vehicle for managing community interests in the field of resource management. If it comes to area-based forms of conservation such as those developed under the *Fauna Act* or the *Conservation Areas Act* requiring a separate management committee, then the MBP should

give consideration to making the WDC the WMC in charge of area and resource management issues.

### **4.3. Law-making Powers of Provincial and Local-Level Governments**

The new *OLPG&LLG* has not only transferred service delivery mechanisms to the provinces and the LLGs, but has also given them certain taxation and law-making powers which can be applied to the field of conservation.

#### *4.3.1. Provincial and Local-Level Government Law-making Powers with Regard to Conservation*

Under Section 42 of the *OLPG&LLG*, the Provincial Legislature retains law-making powers over a large number of issues among which the following are related to conservation activities:

- 42 (r) Land and land development including provincial titles and leases;
- 42 (s) Forestry and agro-forestry;
- 42 (t) Renewable and non-renewable natural resources;
- 42 (y) Parks, reserves, gardens, scenic and scientific centres.

The Provincial Government of Milne Bay is developing a new provincial law, which will look at revenue raising options under the New Organic Law and the licensing of the dive industry.

In essence the new LLGs constitute an elected micro-government. The LLGs have a constitution and the right to make laws, collect taxes and levies and spend money on activities within the territory of the LLG. LLGs have law-making powers with regard to a range of issues relating to the area for which they are responsible [See Section 44].

Issues to which the LLGs have law making power under Section 44 of the *OLPG&LLG* and which are relevant in the context of conservation are:

- 44 (i) Dispute settlement;
- 44 (p) Local environment;
- 44 (s) Domestic animals, flora and fauna;
- 44 (z) Protection of traditional sacred sites;
- 44 (ab) The imposition of fines for breaches of any of its laws.

These sections provide room to draw up local-level conservation laws which stipulate the establishment of set-asides, the seasonal closure of fishing areas or matters of policy vis-à-vis dive boat operators, foreign fishing vessels and intruding fishermen from other areas.

Law making powers with regard to those themes not specified under Sections 42 and 44 of the OLPG&LLG are retained by the National Government. Provincial and Local Level Government laws have to be consistent with higher provincial and national laws. In case of inconsistency the “higher” laws overrule “lower” laws.

If an act passed by national parliament is deemed of national interest, such an act overrules existing Provincial and LLG laws. As the new *Fisheries Management Act* is deemed of national interest [see Section 1 (2) of the act] this act overrules all attempts by the MBPG to regulate archipelagic fisheries in its Provincial waters through Provincial legislation.<sup>9</sup> This to the frustration of the province, which can but watch as foreign vessels rip out its marine resources and depends on an ineffectual NFA in Port Moresby to prevent this from happening. In 1997 the Province adopted a so-called *Prohibition Act on Pelagic Fisheries* in an attempt to ban foreign vessels from entering its waters. This legislation was however ruled out by the NFA as it was deemed inconsistent with higher legislation.

#### **4.4. Funding the Provinces and the Local-Level Governments**

Funding for the provinces and LLGs takes place through a complex system of grants based on population numbers and land area. These grants do not cover salary costs of civil servants, as all civil servants of provincial and national departments have been merged into one national civil service. A Joint Provincial District Planning & Budgeting Priorities Committee chaired by the electoral MP and including the Provincial MP, the heads of the LLGs in the district and up to three appointed members plays a crucial role in approving the expenditure of these grants at the levels of the district.

##### *4.4.1. Sources of funding for Provinces and LLGs*

The most important grants for the Provinces and the LLGs are:

- The Minimum Provincial and Local Level Administration Support Grant under section 92, covers the administrative costs at Provincial, District and LLG levels (Schedule 2; OLPG&LLG).
- The Minimum Provincial Infrastructure Development Grant under Section 93 can be spent on infrastructure development activities (Schedule 3; OLPG&LLG).
- The Minimum Town and Urban Services Grant under Section 94, is spent on town infrastructure and urban services (Schedule 4; OLPG&LLG).
- The Local Level Government and Village Service Grant/District Support under Sections 95A can be spent on activities by the LLG after approval by a Joint District Planning & Budgeting Priorities Committee: (Schedule 5; OLPG& LLG).

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<sup>9</sup> In addition Section 43 stipulates that large-scale economic ventures with regard to mining and petroleum, forestry, fishing and marine resources declared as such by the Head of State are always excluded from provincial jurisdiction.



- The Provincial Support Grants under Section 95B which can be spent on activities by the Province after approval by the Joint Provincial Planning & Budgeting Committee:
- With the new Value Added Tax regime of 10% on all traded goods, some 3% is supposed to flow back to the Province through the derivation grant.

These funds together are considered insufficient to provide services and run Milne Bay operations, meaning that priority is at this moment being given to those policies that generate revenue (Personal Communication Wilfred Leleka).

#### *4.4.2. Potential Sources of Conservation Income in Milne Bay*

Spergel (2000) describes three basic mechanisms through which protected areas in developing countries can be funded:

- Annual allocations from the Government budget;
- Grants and donations from individuals, corporations, foundations, non-governmental organisations and international donor agencies, including financial mechanisms such as “debt-for-nature swaps”, conservation trust funds, and carbon-swap arrangements; and
- User fees and environmental taxes earmarked for nature conservation.

The first and second sources of funds are closely linked as most donor agencies, including the GEF, insist on co-financing arrangements in which the receiving Government supplies at least part of the project inputs in money and in-kind services. Part of the development of a comprehensive project document is the simultaneous development of a project proposal to the GOPNG, by which counterpart funding and institutional support to the MBP is secured. Financial and institutional support should be demonstrated both at the National and the Provincial government levels.

The main conservation levies and fees that could be considered under the above mentioned sources of conservation finance are park fees, provincial taxes and fines. The scope for income from these sources is limited

**Park fees:** At this moment there are no parks and there is no possibility to charge park fees in Milne Bay (See Appendix 8.7). Where tourists have an interest in snorkelling, diving and village tourism in and near WMAs established through the MBP, it is important that the resulting benefits accrue directly to the local people to strengthen commitment to maintaining these set-asides. Such could possibly be regulated under the taxation rights bestowed on LLGs under section 87 of the New Organic Law.

**Provincial taxes** such as airport fees, hotel taxes, diving fees and other tourism charges may be earmarked for conservation purposes and tourist development. It appears that Section 86 of the OLPG&LLG, which regulates the type of taxes that the Province may levy, does not allow the Provincial Government the right to levy fees or taxes on dive boat operations and tourist accommodation. Taxes and fees can only be imposed in the form of:

- Sales and service taxes;
- Liquor licensing;
- Gambling licenses;
- Developed property tax;
- Motor vehicle registration fees;<sup>10</sup> and
- Provincial road-users tax.

Section 87 (a) of the OLPG&LLG, however, gives LLGs the right to levy taxes, charges and fees for community services, which could potentially cover tourism and dive boat related fees. Consultations with the Internal Revenue Commission may be required to assess the available options. In terms of the long-term financial and institutional sustainability of the Milne Bay Province these options should be studied.

**Fines:** The scope for fines as a source of conservation income is limited because:

- Fines accrue to Internal Revenue at the national level and are as of yet not earmarked for specific purposes. In general the GOPNG has been reluctant to earmark revenue for licenses or fines to specific purposes in order not to erode its revenue-base.
- The enforcement capability of formal conservation authorities is very limited, meaning that very few fines are imposed and even fewer are collected.
- Fines as stipulated in the various acts may be considerable to local villagers, but small in terms of the financial outlays needed to support the institutions that monitor and enforce conservation regimes.
- Within the village the adherence to environmental rules and agreements will be mainly dependent on mechanisms of social control. People may be reluctant to impose fines on co-villagers. A description of social mechanisms of rule making, penalty setting, enforcement, and conflict resolution are important issues for the SFS of the Milne Bay Province.
- Where it comes to village court action, fines don't necessarily accrue to the conservation area management committee, because in many cases PNG culture places priority on the compensation to the plaintiff, rather than on allowing the fine to disappear into the money box of local conservation authorities.

Only where communities take through an extensive process of rule-making, penalty-setting and enforcement and only where a conservation area management committee consisting of respected people with the necessary authority to lay charges and collect fines is there potential

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<sup>10</sup> Milne Bay Provincial Legal Officer Tom Cowen suggests that the term "Motor Vehicle" should be interpreted as including motorised vessels, suggesting that a provincial registration system for motorised boats could become a source of income to the MBPG. This would assist the MBPG is constructing and maintaining its wharves and jetties.

room for a small income to the Management Committee from fines. However, as many committee members in PNG expect to be paid “sitting fees” for their membership, and as conservation monitoring may require funds, Management Committees are more likely to be a drain on, than a source of conservation funds.

Spergel (2000) notes that even where there is revenue-generating potential of earmarked user fees, taxes and fines, they should not be relied upon to cover the core costs of managing protected areas, due to their sensitivity to dramatic fluctuations. User fees and environmental taxes “should be regarded as a supplement to regular government budget allocations and international donor funding, rather than a replacement for those two funding sources”. In general the room for such funding mechanisms is limited in rural PNG, meaning that the MBP is likely to fall back on the first and second sources of funding by pursuing a combination of Government and GEF funding.

## 5. PRIORITIES IN CONSERVATION LEGISLATION & IMPLEMENTATION

Whimp (1995) has produced a detailed legislative analysis of conservation laws in PNG. This section relies on her analysis and gives a short overview of the deficiencies most important to the MBP as well as possible amendments to patch these acts up.

In this section I will list possible amendments to the area-based forms of conservation under the *National Parks Act*, the *Fauna Act* and the *Conservation Areas Act*.

### 5.1. Gaps within Papua New Guinea Conservation Legislation

General issues in conservation legislation requiring improvement are

1. The existing conservation legislation in PNG falls under a number of different acts and protected area legislation does not constitute a single coherent protected areas system. According to the 1995 DEC Strengthening Project review there is a need for a more coherent arrangement of protective regimes, preferably incorporating all protected area mechanisms into a single all-encompassing act (Whimp 1995).
2. It would be useful if the protected area regimes defined in such an act would run parallel to the internationally accepted IUCN classification of protected areas (See Appendix 8.3).
3. Neither the *Fauna Act* nor the *National Parks Act* contains a provision regulating development activities within these areas. The decision for allowing or disallowing the development of conservation areas lies with the Minister of Environment and Conservation.
4. Under the present legislation Government input in protected area management of all kinds is vested with the OEC. Only the *National Parks Act* allows for the devolution of conservation responsibilities by the secretary of OEC to the Provincial Government. This situation is at odds with the general intentions of the 1995 *Organic Law*, which gives Provincial and Local Level Governments a number of powers relevant to conservation. Issues that would need to be addressed in national conservation legislation are:
  - What role do provincial and local level governments play in planning and managing protected areas of various kinds?
  - Which bodies are eligible to retain fees (if any), and spend donor monies? and
  - How are decisions about development within the park and changes to the management plans made?

5. There is confusion over a number of functions related to conservation. The function of Conservator of Fauna stipulated under the *Fauna Act* has been delegated to the Secretary of the OEC. The position of Director of National Parks also has been taken over by the Secretary of the OEC in 1990, but this change is not reflected in the act, which still refers to the “Director”. This amalgamation of functions in the position of the Secretary now means that under Section 9.2 of the *National Parks Act* the Secretary in his capacity of Director of National Parks has to consult himself in his capacity as Conservator of Fauna.
6. The position of the Secretary of the OEC/Director of National Parks/Conservator of Fauna should be given the right to bring prosecutions against offences committed under the *Fauna Act*, the *Conservation Areas Act* and the *National Parks Act*.
7. The *International Trade (Fauna and Flora) Act* provides protection to those species which are listed in the Appendices to the CITES Convention and which are scheduled in the act. The CITES list has been modified several times, but the Schedule to the *International Trade Act* has not been updated since January 1983. Even though the act applies to all species currently listed in the Convention and does not legally rely on the amendment of its schedule to provide protection, consistency with additions and deletions agreed at the bi-annual CITES meetings is required.
8. The regulations of the *Village Courts Act* (1989) should include offences committed under the *Fauna Act*, the *Conservation Areas Act* and the *National Parks Act* to allow such offences to be heard by Village Courts.
9. Fines are generally very low. Hunting for protected animals may receive a penalty of up to Kina 1000, but a breach of rules in WMAs, for example, is capped by a maximum of Kina 20. Offences dealt with by Village Courts cannot be fined by more than Kina 200.

#### 5.1.1. Amendments to the *National Parks Act*

Issues of improvement required in the *National Parks Act* are:

1. The definition of “area” in Section 1 should be amended to include “land covered by water or waters within the territorial jurisdiction of PNG”.
2. A new section is required which stipulates that National Parks may be managed according to specific management plans developed by the OEC and/or provincial administrations, and are only subject to the regulations as stipulated in the act in the absence of an approved and gazetted management plan
3. *The National Parks Act* needs to explicitly state that no development activities can occur other than those in accordance with the management plan, or in the absence of such plan, with the consent of the Secretary of the OEC.
4. Section 10 of the *National Parks Act* provides for the decentralisation of powers to provincial authorities but does not stipulate which powers are delegated and which are to be retained by the OEC. Issues in provincial park management include a) the drawing up

of management plans between the OEC and the provincial authorities; b) the enforcement of regulations; and c) the control over proposed development activities.

These amendments are of relatively little immediate importance to the MBP as the *National Parks Act* is likely to be of limited importance to its operations.

### 5.1.2. Amendments to the Fauna Act

The *Fauna Act* is much more important to the MBP and could do with the following improvements:

1. WMA legislation under the present *Fauna (Protection and Control) Act* provides a mechanism only for the regulation of the harvesting of fauna, usually glossed as “wildlife”. “Fauna”, is defined as any species belonging to the animal kingdom, but not covering flora. This may be a concern to terrestrial conservation as the act may not be able to stop habitat conversion such as through logging. The DEC Strengthening Review suggests to replace the word “fauna” with the word “wildlife” and to define “wildlife” to include flora and fauna (Whimp 1995). This issue is of less relevance to the marine WMAs as these are usually aimed at protecting marine species and corals are covered by the definition of fauna used in the act.<sup>11</sup>
2. At this stage WMAs provide a means to manage fauna on land held under customary tenure, and may with the above amendment also cover flora. WMAs, however, provide no means to regulate access to genetic resources, the management of intellectual property rights and the distribution of benefits derived from these resources (Personal Communication John Aruga).
3. The act does not provide a mechanism for listing species in need of protection. Criteria and a procedure for such listing should be established.
4. The notion of “animal” as defined in Section 1 may have to be expanded to include articles manufactured partly or wholly from protected species.
5. The Protected Species listing of the *Fauna Act* needs to allow for countrywide species-specific management plans, which provide for more intermediate protection rather than total blanket protection or no protection at all. Its WMA mechanism allows such management plans to be part of WMA regulations at the local level. Section 28 of the *Fisheries Management Act* offers provincial administrations the possibility to regulate the harvesting of and trade in marine resources.
6. Fines under Section 17 of the *Fauna Act* need to be substantially increased.

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<sup>11</sup> Whimp (1995) notes that including flora in WMA establishment may conflict with the *Forestry Act*, which deals with the harvesting of timber, rattan and sandalwood. If flora is included under the WMA mechanism then the commercial harvesting of flora should be explicitly prohibited under the Act.

7. For other issues dealing with the export regulations of fauna and flora under the *Fauna Act* and the links with the *International Trade Act* see Whimp (1995).
8. Next to these legal issues there is a serious implementation issue with regard to the declaration of WMAs and their rules. The backlog in applications and the lack of gazetted rules for all WMAs after 1980 means that over the last 20 years very few legally enforceable protective regimes have been established under the *Fauna Act* (See Appendix 8.5). The same is true for the *Conservation Areas Act*.

#### 5.1.3. Amendments to the Conservation Areas Act

Information on the practicalities of establishing conservation areas and on the deficiencies of the *Conservation Areas Act* is limited due to the fact that the act has never been used. Issues of concern are:

1. The definition of "area" refers to a "site, place or region", and its immediate surroundings, thus not necessarily excluding waters. The act however, appears to have been written with terrestrial conservation in mind as the act continuously refers to 'land', which needs to be mapped, described and protected (See, for example, Section 12 (3)). No reference is made to the possibility of establishing marine conservation areas.
2. A number of administrative bodies referred to in the act have in the last 20 years become obsolete. The act needs to be amended to take out references to the Premiers Council (Section 4 (2)) or the Local Government Authority/Council and replace these with reference to the bodies now taking on these functions (See Section 26 (3)).

#### 5.1.4. Amendments to the Fisheries Management Act

The *Fisheries Management Act* gazetted in 1998 is again subject to review. According to the NFA there are a large number of omissions, which need to be amended. Most of these amendments have to do with the control of pelagic fisheries.

There is one oddity in Section 32 of the *Fisheries Management Act*, which needs mentioning in the context of the conservation of marine resources. Section 3 (2) states that unless otherwise stated, the act does not apply to the taking of fish a) for personal consumption, b) for sport or pleasure, c) for customary fishing, or d) for artisanal fishing. All those sections that refer to *all* users of marine resources including those mentioned in 3 (2) therefore have the inclusion that "notwithstanding section 3 (2), this section applies to all persons, all vessels and all fishing and related activities" (See, for example, Sections 30 and 31). This caveat, however, is omitted from Section 32 which prohibits the use of explosives and poisons, thus appearing to prohibit the use of explosives and poisons, *except* for those activities and people mentioned under Section 3 (2). This is unlikely to have been the intention of the act and may need to be amended by inserting the inclusion invalidating Section 3 (2) in Section 32.

Another issue, which came up during the PPNA workshop, concerns the fact that the *Fisheries Management Act* says nothing about its regard for Marine Protected Areas. Thus long liners provided with a license could intrude on potential marine protected areas. It would

be good if the amendments to the *Fisheries Management Act* would stipulate that licensed vessels are to stay out of areas covered under protective legislation contained in the conservation legislation and Section 30 of the *Fisheries Management Act*. These issues would only play a role in sizeable protected areas as the conditions of the fishing license contain a clause that long-liners should stay at least three miles off shore.

## **5.2. The Enforcement of Conservation and Fisheries Legislation**

In PNG, Government Agencies such as the OEC, the NFA and the Provincial Administration are given very limited resources to enforce natural resource management and conservation regimes in what is a geographically complex country. Virtually all Government institutions and semi-Government agencies dealing with rural areas, suffer from a lack of personnel and funds to fulfil the many tasks at hand.

In practice the enforcement of resource related regulations in PNG is a very large issue, which takes place at the village level, guided by customary practices and mechanisms of social control and conflict resolution. Sometimes such social control is supported by more or less informal village court sessions.

Although formally breaches of environmental legislation are to be dealt with by the Public Prosecutors Office and brought before the District or Higher Court, there are very few cases brought before these courts. This has a number of reasons:

- In the first place the PNG prosecuting authorities have greater priorities than following up on breaches of conservation regulations;
- There are no established procedures for prosecutions for conservation or fisheries regulations, while there is a lack of prosecuting experience;
- In addition the conservation legislation does not specify how, where and by whom prosecutions can be undertaken. At this stage WMCs and provincial governments cannot bring prosecutions. The NFA however, under the new *Fisheries Management Act* has the right to bring prosecutions with regard to fisheries issues; and
- For conflicts within the community over breaches of conservation rules the District Court may be too far removed from the daily life of local communities and their management committees to be effective. A more suitable forum to enforce conservation regulations would be the local Village Courts. Under Section 41 (a) of the *Village Courts Act* (1989), however, Village Courts are only allowed to deal with “prescribed” breaches of regulations. Regulations under the *Village Courts Act* at this stage do not include conservation offences, meaning that Village Courts are not considered an appropriate legal forum to deal with breaches in conservation legislation (Whimp 1995).



Whimp (1995) suggests that the Director of National Parks, in practice the Secretary of the OEC, should be allowed to bring charges against offenders. In addition offences under the *National Parks, Conservation Areas*, and the *Fauna Acts*, should be listed in the regulations of the *Village Courts Act* as being offences eligible for prosecution in the Village Court.

Another option to improve formal enforcement of conservation regulations at the village level may stem from Section 44 of the *Organic Law*, which gives LLGs the right to make rules with regard to flora and fauna [Section 44.1 (s)]. [Section 44.1 (ab)] gives the LLG the right to impose and collect fines related to breaches of such rules.

### 5.2.1. *The Relativity of Law-making for Enforcement*

A core problem with all of the above legislation and the call for amendments to this legislation is the limited capacity of government bodies and the legislature to implement and enforce these various rules. Whimp (1995) for example, notes that the law-making capabilities of the State are only relevant as long as the State is able to effectively enforce these rules and regulations. “If the existing laws are not being enforced, there is no point passing new ones until the reason for non-enforcement has been identified and addressed”. There may be little point in improving legislation if it cannot be implemented and enforced anyway.

In the practice of everyday rural life, rural people may deal with a range of important issues ranging from minor complaints to outright murder without recourse to formal law. In many cases offences not falling under the *Village Courts Act*, are still dealt with by local magistrates (See for example VanHelden 1998 on courts in the Jimi Valley). Offences dealt with in the Village Court can officially only lead to a fine of a maximum of Kina 200, but in practice extend to thousands of Kina if involving deaths or serious injuries. The question whether people accept the Village Court as a medium for conflict resolution and rule setting and enforcement is thus not so much a question of what the *Village Courts Act* and the GOPNG say. It is in the first place a question as to whether the litigants and their community accept the Village Court and other village fora as a legitimate and acceptable forum to solve their disputes.

This points to the relativity of lawmaking and legal improvement in a country such as PNG. Formal law has a limited bearing on day-to-day life in rural PNG and modifying/improving the law does not necessarily lead to a change of behaviour or the establishment of conservation regimes.

### 5.2.2. *Choosing for Implementing and Enforcing Area-based Conservation Mechanisms*

As in many other countries the poor enforcement capability of Government institutions means that rules with regard to the killing, taking, and trade in protected animals and their products as well as device regulations are rarely enforced. In the Jimi Valley for example, almost every household is in possession of a gun, with the main constraint on the use of guns in hunting the cost of cartridges, not the enforcement of the *Firearms Act* and the *Fauna Act* (VanHelden 1998). Similarly many coastal villagers in PNG continue to practice forbidden forms of fishing without penalty, while prohibited products such as bird of paradise skins and turtle

eggs are sold in many local markets in contravention of the trade regulations of the *Fauna Act*. Environmental Officers trying to prevent the sale of protected animals and their products in markets are often in danger of being physically assaulted.

In practice this situation means that the MBP can very well aim to extend the list of protected fauna with fishes and marine animals deemed in need of a 'protected' status, and can try to support the OEC in improving the existing legislation. It should however realise that the real impact of such measures at the community level in Milne Bay will be limited unless enforcement is tackled as well.

This has a number of implications for projects aiming to strengthen conservation and resource management practices in PNG.

- In the first place, the question is whether scarce conservation resources and manpower should be put into improving legislation, or alternatively into applying and enforcing existing legislation. As I have argued, the existing legislation especially that pertaining to WMA and CA establishment and the options available under Sections 28 and 30 of the *Fisheries Management Act* are not perfect, but certainly workable for the purposes of the MBP. The main problems appear to lie with the implementation and enforcement of laws, not with the laws themselves. An option to be considered is whether another donor could focus on improving the conservation legislation, with the MBP aiming for the implementation of this legislation in the context of Milne Bay.
- Secondly, it may be most effective to regulate, monitor and enforce environmental regulations in more confined geographical areas. It is easier to protect activities in a WMA of relatively limited size than to control the use of harmful hunting devices or protected species regulations over very long stretches of coast by large numbers of people. This means that in terms of cost-efficiency and effectiveness it may be most useful to the MBP to concentrate on establishing and strengthening relatively small area-based forms of conservation within the proposed Conservation Zones rather than trying to control the whole area and all people within it.
- Thirdly, trade restrictions appear to offer the best options for controlling the exploitation of natural resources. This is recognised in the provincial fisheries management plans, which restrict the number of buyers and exporters, thereby allowing for daily control on their activities. A problem, however, is that there is no constraint on hoarding, meaning that people may actually fish well inside the closed season, selling their stock when the buying season opens. At this stage these management plans only cover beche-de-mer and prawn, not other vulnerable species.

It is not clear whether the existing control mechanisms in Milne Bay are the best available.<sup>12</sup>

- Finally, working together with local communities is not only a necessity in the context of PNG tenure relations, but also has the advantages that among committed communities part of the cost of enforcement may be reduced, as modes of social control are more important than formal enforcement activities.

These points support the conclusion to the MBP, aiming for real conservation at the community level, it may be most practical to implement and enforce existing national legislation rather than trying to improve on, or create new legislation. If the project would like to engage in strengthening existing conservation legislation it should focus on strengthening and enforcing area-based, fisheries management plans, and trade-restricting legislative tools at the provincial level.

### 5.2.3. *The Conservation Deed*

A recent development of interest for community-based conservation is the drawing up of a so-called Conservation Deed. This is basically an agreement among resource owners themselves as to how to manage natural resources. Unlike all other forms of conservation legislation described above, a Conservation Deed is grounded in private law covered by the PNG *Law of Contract* which protects and enforces agreements not only between the parties that enter into these agreements but also from third parties aiming to interfere with the agreement. The initial idea of such a private agreement for conservation purposes was developed in a short paper presented in 1997 (Brunton 1998).

It has only been used once in the Wanang area in Madang Province where eleven land-owning clans have agreed amongst themselves that they will not make their land and forests available for logging purposes. The community process leading up to the signing of the Wanang Conservation deed was facilitated by the Bismarck-Ramu Group. Interestingly a reply by OEC to enquiries about the deed made by the member for the area, who was vying for inclusion of the Wanang area in the Kumlam Forest Management Area as part of his electoral development plan, reveals that the OEC does not think that the deed can be undone easily. As the Constitution of PNG recognises the ownership rights of resource owners, their

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<sup>12</sup> A short discussion with Andrew Smith and Bill Raynor of TNC provided some interesting insights in the regulation of trochus fishing in Palau. Here trochus is brought on shore to a central locality. The management is based on a pulse fishing regime, which allows only for very short harvesting periods. Trochus shells landed have to be of a minimum size and below a maximum size in order to preserve a rootstock. A simple measuring device makes immediately clear to the fishermen whether the shells are within the tradable limits or not. Hoarding is impossible as the fishermen have to land their shellfish with the live animals still inside, and only after registration and cleaning out of the shells receive their money. A simple calculation of live weight versus empty shell weight makes adding hoarded shell impossible. It is unclear whether such regulatory systems would apply in the Milne Bay situation, but a study of regulatory mechanisms, with regard to sedentary species in other areas of the Pacific, could assist the Milne Bay Provincial Government in fine-tuning and improving its regulatory mechanisms with regard to sedentary resources.

right to make decisions with regard to the use of their resources, and as these land-owning clans have made an agreement among themselves, the Deed cannot easily be undone by a third party. Not even the GOPNG is able to do so, for exactly the same reasons that it has so little possibilities to enforce state-led forms of conservation without communal consent. Also attractive is that the facilitating NGO itself is not party to the agreement. Only if all involved parties agree that the Deed should be rescinded can such be done. Any unilateral violation of the Deed is punishable in court as a breach of contract triggering either the enforcement of the contract or forcing the defaulting party to pay damages. The instrument needs to be reviewed and refined legally, which could be a worthwhile undertaking for CI to fund.

Part of the attractiveness of the Conservation Deed lies in its inherent flexibility. As long as the involved parties are recognised as the 'true' resource owners and agree among themselves as to how their resources should be managed, the Deed allows for detailed management plans of a wide variety and could be used for communally-based fisheries management or conservation zoning. A second attraction is that for its incorporation in law one is not dependent on the workings of the PNG bureaucracy. As such it provides an interesting vehicle to draw up conservation agreements among communities unanimously dedicated to the management of their resources. As with all other types of area-based conservation legislation described in this report, its success is dependent on the quality of the community entry process.

### **5.3. Steps towards Project Development**

In the coming period the MBP will have to draw together a large number of institutions and people in order to prepare a project submission to the GEF. This section outlines the set-up of a number of key stakeholders at the national level and looks at the structure and timing of the PNG budget.

#### *5.3.1. Stakeholders in Project Development at the National Level*

At the national level a number of Government and statutory institutions play key-roles in project formulation and policy development. The most important of these are the OEC, the NFA, and the DNP&M.

**Office of Environment and Conservation.** The OEC is a key technical department in supporting the GEF proposal at the national level. The OEC is responsible for the implementation of PNG's national conservation policy. PNG conservation policy is primarily aimed at ensuring the sustainable use of the country's natural resources and at developing a representative system of protected areas to safeguard PNG's biological and genetic resources (Personal Communication John Aruga).

Until 1998 conservation issues were the prerogative of a separate department operating under the Minister of Environment and Conservation. In 1998 a cost-cutting exercise saw environment and conservation issues delegated to the status of Office. The OEC has, however, retained its separate ministerial representation within the National Executive Council. Personnel have been cut from 150 to about 90 in 1998. These reductions are in line

with the new Organic Law, which aims to reduce the size of the National Government while strengthening provincial and local-level Governments. Recently, however, the department has started to recruit new personnel again.

The OEC, like its predecessor DEC, consists of three divisions: the Corporate Services Division, the Environment Division dealing with issues on environmental planning, water resources and industrial monitoring, and the Conservation Division. The latter Division is in charge of developing conservation activities, the management of national parks, the gazettal of WMAs and conservation areas and the enforcement of conservation, hunting and trade regulations. The Biodiversity Branch of the Conservation Division is presently looking at setting up a marine unit (Personal Communication John Aruga). The Conservation Division reports directly to the deputy-director and director of the OEC and is itself divided into three branches dealing with biodiversity, enforcement and parks and wildlife. Up to this moment Conservation International has mainly dealt with the Biodiversity Branch, but if it is to implement WMAs/CAs, and wishes to improve conservation enforcement and legislation then linkages with the other two branches are vital as well.

The OEC has expressed a great interest in the MBP and has been very supportive during the PDF-B application and subsequent project formulation processes. In the implementation of the MBP, the OEC is likely to play an especially important role in the field of:

- Policy development,
- The implementation and enforcement of existing rules and regulations;
- The gazettal of set-asides established under the project;
- The strengthening of existing legislation; and
- Technical support to the MBPG.

**The National Fisheries Authority.** As there is little inland fishing in PNG, fisheries policies in PNG cover two main issues:

- 1) The regulation of foreign long-distance vessels operating within the national waters of PNG; and
- 2) The regulation of coastal, artisanal, and subsistence-oriented fisheries.

Controlling the foreign vessels operating with PNG's waters and capturing the possible foreign exchange income and development spin-offs from long-range fishing is deemed the most important fishing issue by the Government, which is actively developing an in-country fish processing industry and also aims to develop a fishing vessel servicing industry.

The second issue, however, is most relevant for the MBP. Artisanal fishing is a dispersed activity, taking place in all coastal waters and on the many islands that make up PNG. These activities are mainly regulated by the *Fisheries Management Act*, which restricts the devices by which fish and marine animals may be taken in a manner consistent with the *Fauna (Protection & Control) Act*. A second source of fisheries regulation stems from the fisheries management plans established under the act.

Responsibility for the control and regulation of PNG fisheries rests with the NFA, a statutory body established in 1998. Formerly a Government Department, the NFA is now governed by a separate NFB. The transition from a department to a statutory authority has meant a reduction in staff from 260 to about 50. These reductions are in line with the new Organic Law, which aims to reduce the size of the National Government while strengthening provincial and local-level Governments. According to many provincial sources, the first aspect my have been achieved, but fisheries monitoring in the provinces has not improved.

The NFA is the first authority in PNG that has been granted the right to retain part of the income from licences to finance its operations. About one-third of its income from licenses, estimated at about Kina 30 million, can be used for that purpose. Until now all income first went into Consolidated Revenue before being handed out through the National Budget.

As already described the enforcement capability of the NFA is limited but gradually improving with the development of transponder and observer mechanisms. Interception capability is still very limited. A problem with monitoring fisheries regulations within the provinces is that while the NFA at the national level acts as a politically independent statutory authority, the executing and monitoring fisheries officers at the provincial level are part of the Provincial Administration and thus more easily susceptible to political pressure.

### *5.3.2. A Key Role for the Department of National Planning and Monitoring*

The DNP&M is a key department in project development, the maintenance of relations with foreign donors and the annual national budgeting exercise. All domestic and foreign initiated projects, both in terms of content and in terms of their financial implications pass through this department and have to be accepted and budgeted for.

The Department has a number of divisions with two divisions playing a crucial role. These are:

- The Foreign Aid Division which maintains contacts with foreign donors and is the 'natural' sparring partner for Conservation International and UNDP in the development of the MBP; and
- The Development Planning and Programming Division which 1) ensures that proposed projects are consistent with PNG policy, 2) provides technical support to the ODA in its negotiations with donor agencies, and 3) approves the incorporation of the final project proposal in the national development budget.

In their work the Foreign Aid Division and the Development Planning Division often call on the involved "line" departments and statutory bodies such as the OEC and the NFA for their technical input and support. Importantly, both the Foreign Aid and the Planning divisions have specified officers dealing with resource management and provincial issues. These officers are responsible for seeing the project development process through. If one manages to gain the support of the DNP&M leadership as well as their involved staff officers then there is

a good chance of seeing the required counterpart funding and policy support being made available.

The MBP has set up a national steering committee in which representatives of the DNP&M, the NFA, the OEC and the MBPG, as well as UNDP and Conservation International take part. The only department that should possibly be included but has until now not been invited is the Department of Provincial Affairs and Local-Level Government.

The Development Planning Division has an elaborate Project Development Form, which constitutes the basis for its assessment of new PIP applications. The MBPG has already produced a basic outline of a possible PIP proposal. Much more work on developing specific activities, mobilising participating stakeholders and streamlining the PIP into the ongoing activities of the involved provincial divisions still needs to be done.

### *5.3.3. The Timing and Structure of the Papua New Guinea Budget*

The PNG financial year runs from January to December. Budgeting for the year to come usually starts around June/July culminating in a budget submission to Parliament by November, and parliamentary approval at the end of November or the beginning of December. This time line implies that proposals to be funded under the coming year's budget have to be presented and agreed upon by the PNG Government and its involved departments by July in order to have counterpart funding incorporated into the budget by November.

The National Budget of PNG consists of two parts. One is the recurrent budget, which funds most ongoing governmental activities and pays the salaries and working costs of the bureaucracy. The Treasury of the Department of Finance and especially its Budgeting Division is crucial to the allocation of funds in the recurrent budget.

The second element is the Development Budget, in PNG known as the Public Investment Programme. The PIP includes all temporary development investment undertaken by the GOPNG and its donors. Generally activities funded under the PIP are short-term "project" type of investments aimed at undertaking new activities, strengthening existing departments and their activities and funding the statutory authorities. Once projects end and become integrated with the existing departments' activities, they are to be funded under the recurrent budget and disappear from the PIP. The PIP is budgeted for by the Development Planning and Programming Division, which not only analyses the various project proposals, but also secures the funding for approved proposals under the PIP.

PIP projects are in principle put forward by PNG departments or statutory bodies. They define their needs, in reality often assisted by a donor and then put in a proposal for project funding in which the donor agrees to pick up part of the tab. The issue of ownership is important, as the Development Planning Division would be reluctant to put monies into projects not clearly serving the needs of PNG and its people. The ownership issue is reflected in the fact that the PIP allocations are tied to a number of codes, the first three digits reflecting the department or statutory authority executing the project, the last three the serial number of that specific project.

In the case of the MBP this would mean that the Milne Bay Provincial Government, with technical support from Conservation International would submit a PIP proposal to the DPN&M, which if approved would be funded under code 547, which is the code that stands for MBPG PIP projects. The PIP budget not only reflects the GOPNG allocation but also lists the inputs provided by donors under that project.

#### *5.3.4. Building a Case for the Milne Bay Project*

Project development in PNG is all about building coalitions of donors, national, provincial and LLGs, local fisheries-dependent communities, supporting NGOs and the private sector. Important is to list the reasons why such a project would be interesting to the institutions involved at the national level.

The bottom line is that the MBP should contribute to the sustainable management of marine resources in order to 1) conserve marine resources and marine biodiversity and 2) ensure a continued income from marine resources to local communities. The main aim is to develop a zoned management model that allows for a variety of regimes: 1) strict set-asides on a permanent or rotational basis to ensure spawning and spill-over effects; 2) fishing zones in which levels of harvesting are within sustainability limits; and 3) dive zones in which harvesting of especially charismatic species is restricted but income is generated through visiting dive boat operators.

In developing a supportive coalition for the project at the national level the project team should not only provide the necessary information on the project and its proposed resource management activities, but also emphasise the national importance of the project:

- The Foreign exchange implications of bringing large amounts of foreign currency into the country for a prolonged period of time.
- The importance of conservation as recognised in the Constitution and the fact that the MBP is consistent with the GOPNGs commitment to Biodiversity Conservation under the Rio Declaration of 1991, and its ratification of a number of other important conservation conventions such as the Ramsar wetlands convention, the United Nations Framework Convention on Climate Change (UNFCCC), the UNESCO program on World Heritage, and the Convention on the International Trade in Endangered Species (CITES).
- The consistency of the project approach with the New Organic Law which aims to bring Government closer to people in the rural areas and aims to equip provincial and local level Governments with the necessary means to pursue development in a sustainable manner;
- The potential for coastal tourist development that may result from a more sustainable use of coastal resources in Milne Bay Province etc.



## 6. CONCLUSIONS AND RECOMMENDATIONS

At this stage of its development, the MBP is facing a number of different challenges of which two are closely linked to the issues dealt with in this PPNA. The first is the production of a coherent funding proposal to the GEF, the second the development of a Community Entry Strategy which enables the project to engage local communities in designing a series of community-based marine protected areas. Whereas the MBP is well on the way to meeting the first challenge, the second needs more attention. Only once a number of communities express an interest in conservation issues do the legal tools come in.

### 6.1. Community Issues

Priority should at this stage be given to

*An Emphasis on work with the Communities:* As I have already argued in the introduction to this report, and as Kinch continues to stress in his various reports, success is first dependent on the MBP's ability to develop a series of integrated measures that link up with the lives of resource owners within the project area. Such a program will be aimed towards:

- Sensitising people to the possible resource shortages and the consequences of these shortages that they will be facing;
- Defining possible mitigative action that communities can take in the form of localised management regimes;
- Organising of community-based institutions which feed into the WDCs and the Local Level Governments;
- Developing the related rules and penalties that should apply to community-based management systems; and
- The resolution of inevitable conflicts within the community, between communities and between the MBP and communities.

Implementing such a Community Entry program will require the full attention of a dedicated group of people skilled in processes of community facilitation and mobilisation. Only if in conjunction with local groups a series of activities, incentives and disincentives and programs aimed at increasing awareness, resolving potential conflicts and misunderstandings and modifying behaviour can be developed, can the project lead to real conservation. Influencing and modifying people's behaviour will be a long-term affair based on mutual trust, co-operation and participation. It is this side of activities that will necessarily absorb most of the project team's time and energy. Without an intensive community program there simply will be no conservation.

*Conservation Areas as the preferable instrument:* Any area-based conservation measure recognised by PNG law will have to be grafted upon the process of community negotiations. PNG law offers a number of options for community-based conservation. Most of these come in the form of area-based conservation tools. (Table 2 on page 48 provides an overview of the available options and some of their characteristics.) Among the available measures the most attractive option would be the establishment of Conservation Areas under the *Conservation Areas Act*. The flexibility of management plans drawn up under the act, the safeguards on incompatible developments, the ability to include tourism and other related activities, the level of fines and the sharing of rulemaking between the OEC and landowners appear to make this the most attractive instrument available under present PNG legislation. The *Conservation Areas Act*, however, is not operational due to the lack of a National Conservation Council and is dependent on the willingness of local landowners to with part of their control over resources. The first issue can only be solved at the political level in the OEC in Port Moresby; the second is dependent on the motivations for conservation found among resource owners in Milne Bay Province and the quality of the outreach program. Other tools for establishing MPAs appear to lie with 1) the WMA legislation as included in the *Fauna (Protection and Control) Act* [Sections 15 to 19], 2) Section 30 of the *Fisheries Management Act (1998)*, and 3) the Conservation Deed under contract law which, each in their own format allow for the establishment of highly localised and flexible marine management plans. The use of WMAs as a means to secure MPAs is dependent on whether the OEC manages to revive the gazettal process for WMAs. The *National Parks Act* may come into play if the project were to identify privately held land suitable for terrestrial conservation.

*An Evolutionary Approach to Community-based Conservation:* One way of getting local people used to the possibilities of protected area management is to take an evolutionary approach. The first step could be a simple agreement among villagers not to use resources from a certain area for a stipulated period of time. When successfully implemented, and once the benefits become apparent such an informal agreement could be framed in the form of a Conservation Deed among villagers themselves or alternatively in a Section 30 application under the *Fisheries Management Act* to close off certain reef areas. If this works and people and the MBP wish to organise their protection in a more formal manner, the MBP could consider developing a WMA or CA proposal for the OEC. This approach would not only make sense as part of the community program, but would also give the OEC time to amend its legislation and review its WMA procedures. In addition it would give the MBPG and the MBP time to see what opportunities for conservation are offered by the New Organic Law and to develop a provincial dive-tourism policy focussing on using tourism as a means to make MPAs pay (See below).

*Making Conservation Pay:* MPAs are likely to be attractive for a number of reasons. In the first place they may help to prevent the inevitable impoverishment that comes with resource depletion, in the second place they become a means to generate income for resource owners. At this moment the project is involved in developing a mechanism whereby dive-boat operators compensate resource owners for the use of reefs, thus providing an incentive to keep these in an untouched state. The MBP can assist the province in drawing up a voluntary

covenant with local dive boat operators or alternatively draw up a provincial and LLG dive boat policy/law under Section 42 (g), (h), and possibly (y) of the *OLPG&LLG* to minimise the damage to reef systems by ensuring that:

- Communities are rewarded for the use of dive localities through a dive fee paid to the local WDC;
- Communities have an incentive to prevent the destructive exploitation of these localities;
- Permanent dive boat moorings are put in place and used by the dive boat operators; and
- A code of conduct for visiting divers is developed.

Although Section 86 of the *OLPG&LLG* appears not to give the Provincial Government the right to levy fees or taxes on dive boat operations at the provincial level, Section 87 (a) of the act gives LLGs the right to levy taxes, charges and fees for “community services”, potentially offering a way to ‘tax’ dive boat operators for their use of the local environment, if self-regulation through a covenant fails to work. Key project issues in this respect also lie with increasing the spin-off benefits from visits by dive boats in the form of the sale of artefacts, dance shows, food sales and other services provided, the level and distribution of benefits and the biological monitoring of these MPAs. The SUOP report developed as part of the GEF application process outlines the possible options in this respect.

*Education and Awareness:* The above community process may be buttressed by an intensive education component. Many NGOs in PNG produce materials on conservation issues. However, very few have the time, manpower and funds to create a coherent series of educational materials and/or lessons for use in schools, communities and church groups to sensitise people to basic ecology, patterns of environmental degradation, the impact of human behaviour on ecological systems, the importance of maintaining the resource base for the economic well-being of Milne Bay communities, and possible mitigating actions. Due to the political pressure to opt for short-term thinking such awareness raising efforts should:

- i) Be aimed at provincial and national administrators;
- ii) First of all focus on local communities and the WDCs and LLGs in which they are represented; and more generally
- iii) Entail a province-wide information dissemination programme targeting schools, churches and the local media.

Developing such materials, preferably in conjunction with other NGOs and the Provincial and National Departments of Education would potentially have a countrywide and long-term impact well beyond the scope of the MBP.

*Institutionalising Community-based Conservation:* Once informal systems of community-based management have been founded in the everyday reality of community life they can be

used to feed into the hierarchy of WDCs, LLGs and the Provincial Government LLGs. WDCs are likely to play a key role in making decisions, presenting the case of communities and their conservation plans within the LLGs, and in managing MPAs. Conservation Areas and WMAs are managed by local management committees, a role which could be taken on by the existing WDCs. Providing the WDCs with the relevant training and technical support to deal with conservation issues, sorting out their various power vis-à-vis one another and local resource owners, and devising procedures for the management of MPAs and the distribution of benefits, will be an important component of the project. Notwithstanding the likely importance of WDCs, the project should be careful to also include other decision-makers and leaders, such as church leaders and more traditional leaders in its ambit.

## 6.2. Legal and Institutional Issues

*Monitoring and assisting in legislative change and institutional strengthening:* Many of the laws relevant to the MBP are in the process of being reviewed and amended, or as is the case with the New Organic Law, have had so little use yet that it is unclear how far their powers reach and what the possibilities are. For the MBP one key issue will be to monitor the amendments to various acts and plans proposed both at the National and the Provincial level.

At the provincial level this applies to:

- Provincial Fisheries Management Plans: The MBP can play an important role at the provincial level aiming to improve on the provincial fisheries management plans through the collection of data, the monitoring of sedentary species and – possibly – assist in strengthening provincial monitoring and enforcement of sedentary fisheries regulations, the provision of legal training to the Fisheries Division, and the formation of a coalition of communities, dive boat operators and licensed fishing companies to monitor foreign vessels in breach of NFA regulations.
- Section 42 of the New Organic Law. If not satisfied with the options for area-based management provided by the *Fauna Act* and the *Fisheries Management Act*, the MBP and the MBPG could consider drafting a Provincial Protected Reserves Act under Section 42 (y) of the *OLPG&LLG*, which gives the Province law-making powers with regard to “parks, reserves, gardens, scenic and scientific centres”. This would allow for a tailor-made approach to the specific needs of Milne Bay Province and the MPAs established under the MBP.
- Section 44 of the New Organic Law. Section 44 (p) gives Local-level Governments the right to make laws with regard to ‘local environment’ as long as they are consistent with provincial and national law and possibly any provincial legislation established under Section 42 (See above). This would allow the MBPG to develop an enabling province-wide framework for local conservation, which could subsequently be implemented and enforced at the level of the Local –Level Government.
- Both of the above possibilities under the New Organic Law are totally undefined and would require detailed legal assessment in order to assess their worth in terms of

securing conservation. This is an area in which the MBP, in conjunction with the legal officer of the MBPG, could play an important and potentially groundbreaking role.

At the national level:

The MBP should probably not get too heavily involved in redrafting or amending national conservation legislation. Implementing and enforcing the existing legislation would probably better serve the project's purpose of achieving community-based conservation in Milne Bay. If new legislation is to be developed and amended this could be done at the level of Milne Bay Province (See above). Other donors have been involved in assisting the OEC to develop improved conservation legislation. As this still remains an important task, the MBP could possibly play a role in interesting other donors to fund a continuation of the legislative review conducted under the DEC Strengthening Project. If PNG would become a focal point for CI interventions, with a larger number of projects supported by CI, it could consider providing legal assistance to the OEC in order to support the drafting of new legislation, and/or the gazettal of new WMAs and their rules. CI and the MBP could then play an important role in:

- Reviewing Conservation Legislation: Making sure that amendments to the various conservation acts apply to marine conservation issues. At this moment much of PNG conservation legislation is biased towards terrestrial conservation.
- The National Conservation Council: Supporting the establishment of a National Conservation Council and providing the first site to use the Conservation Areas Act. CI-PNG already plays an important role here as the country director sits on the board assessing the NCC membership.
- Restarting the WMA gazettal process: Assisting in restarting the process of WMA and rule gazettal within the OEC.
- Providing input in the review of the *Fisheries Management Act*: The first opportunity to play a role in reviewing PNG legislation may come with the upcoming review of the *Fisheries Management Act*. While most attention will no doubt go to managing pelagic fisheries the MBP (together with TNC and other NGOs) could play a role in presenting the case of the provinces, monitoring the implications of the review of Section 28 for provincial fisheries management and enforcement, and assuring that Section 30 which provides a tool for community-based management of MPAs remains more or less in place.
- Analysing the Conservation Deed: Another opportunity, for CI to assist in the development of legal conservation safeguards in PNG would be to provide funds for an in-depth analysis of private law agreements such as that used in the Wanang Conservation Deed.

### **6.3. Other Issues**

Other issues that may require attention are:

*Solving conflicts that result from the project:* All over PNG, population growth and the rapid monetisation of natural resources trigger an increase in conflicts. The project is contributing to this process of monetisation and by making certain resource owners benefit from the visits by dive-boats in order to secure a number of MPAs. This will no doubt lead to conflicts as individuals and groups of people will try to exclude others in order to maximise the benefits derived from the project and dive tourism. The project will need to spend a lot of time on ascertaining who are the 'true' resource owners in the selected MPAs, and how benefits can be distributed in a manner acceptable to the community of resource owners.

*Developing Tourism:* The MBP could assist the Milne Bay Visitors Bureau in drawing up a programme aimed at making Milne Bay more attractive to eco-tourism. Tourism falls under the law-making powers of the Provincial Government [*OLPG&LLG* Section 42 (h)]. LLGs may make laws with regard to local tourist facilities and services [*OLPG&LLG* Section 44 (q)]. Liaison with the National Tourist Authority in Port Moresby would be required.



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## 8. APPENDICES

### 8.1. Terms of Reference for Policy and Planning Needs Assessment

**Task 1:** Prepare reviews/descriptions of all relevant national legislation, including the Organic Law, and the national government's decision-making process. Some of this work may be done remotely using materials already in your possession and supplemented by any required material you don't already have that will be supplied by CI-Papua New Guinea at your request. The predicted amount of remote work accomplished rests on the assumption that only limited interviews will be required to make sure the national decision-making process is as it was when you were employed in the Papua New Guinea Planning Department. All work by you included under this TOR is to meet the guidelines and stipulations for information collection and analysis described in the GEF PDF-B document on the Milne Bay Marine Conservation Project.

**Task 2:** Travel to Papua New Guinea for two weeks between November 24 and December 8, principally to work with CI staff on collecting and researching relevant Provincial policies and legislation. This will involve "interviews" with those CI-Alotau staff with experience in the Milne Bay Provincial government, as well as various government officials and private sector players identified by CI-Papua New Guinea. Interviews of non-CI personnel will be conducted with one or more of the CI-Alotau staff present. While in Alotau you will also consult with David Mitchell, Milne Bay Project Coordinator, and others identified by him on community level laws and their applications in Milne Bay Project. Following consultation with pertinent CI staff, a couple of days on this trip could also be used to check on national-level decision making and to fill in any gaps in the legislative and policy reviews.

**Task 3:** By the end of day on December 20th Papua New Guinea time, you will complete a first (partial) draft of the PPNA for review by CI staff and subsequent submission to the GEF, UNDP and UNOPS by December 22nd.

**Task 4:** If possible and/or deemed necessary by you and CI staff, you will travel to Papua New Guinea for up to ten days in January 2001, to attend a "workshop/ brainstorming/ writing" session to finalize project activities and fill in gaps in the full PPNA. This workshop is currently tentatively scheduled for one week between January 15 and January 30. The final deliverable is due on January 31. Your attendance at this workshop is envisioned to maintain forward momentum on the development of the PPNA and prevent miscommunications. However, if two trips to Papua New Guinea are not possible for you, then we will expect you to be involved in the discussion remotely via e-mail and/or phone.

## 8.2. People Consulted During PPNA Work

Abel Philemon – Sr. Program Officer Department of National Planning & Monitoring \*

Alfred Alesana - Planning Officer Milne Bay Provincial Government \*

Andrew Smith - Director Pacific Division Coastal Marine Program, & Palau Country Director  
The Nature Conservancy

Banak Gamui - Conservation Manager CI-Papua New Guinea

Bena Seta - Manager Milne Bay Conservation Project; Milne Bay Provincial Administration \*

Bill Raynor - Director FSM Country program, TNC

Billy Naidi – Senior Programme Officer Planning & Coordinating Office, Milne Bay  
Provincial Administration \*

Camillus Midire - Secretary Department of National Planning & Monitoring

Chuck Burg - Manager Melanesia Program CI-Washington

Daniel Mirmirio - Finance Officer CI-Papua New Guinea

David Mitchell - Coordinator Conservation project; Milne Bay Provincial Government \*

Eimi Kigolena - Manager Milne Bay Visitors Bureau

Elijah Degwaleu– Reform Coordinator Milne Bay Provincial Administration \*

Frank Agaru - Deputy Country Director CI-Papua New Guinea

Gai Kula - Country Director CI-Papua New Guinea \*

James Boitagu - Milne Bay Provincial Administration \*

Jeff Kinch - Social Feasibility Expert CI-Papua New Guinea

Jim Cannon – Director Resource Economics Program CI-Washington

John Aruga - Assistant Director Biodiversity Branch OEC \*

Jean Luc Cretin - Masurina Pty Ltd and Nako Fisheries Milne Bay

Joseph Abani - Senior Planner Milne Bay Administration

Juliana Kubak - First Ass. Secretary Economic Sector Development Planning and Programming Division; Department of National Planning & Monitoring

Leo Bualia - Project Manager ADB Fisheries Development Project National Fisheries Authority

Livesi Etheni - Milne Bay Tourism Bureau \*

Lloyd Nolan - Planning Advisor Milne Bay Administration

Marianna Ellingson - Deputy Secretary Department of National Planning & Monitoring

Nancy Ebbes - Assistant Secretary Economic Sector Development Planning and Programming Division Department of National Planning & Monitoring

Onsa Kron Kelokelo - Fisheries Manager Milne Bay Administration

Pamela Seeto - Marine Ecologist CI-Papua New Guinea \*

Paul Lokani - Project Manager, TNC Papua New Guinea

Philip Polon - Manager Sedentary Fisheries National Fisheries Authority

Sachi Wima – Consultant with the National Fisheries Authority

Tom Cowen – Provincial Legal Officer \*

Tormod Burkey - Conservation Officer UNDP Country Office

Wilfred Leleka - Deputy-Administrator Milne Bay Province

Note: People marked with an \* took part in the Policy and Planning Needs Assessment workshop held in Milne Bay Province on Monday 26 and Tuesday 27 February 2001.

### 8.3. The IUCN Protected Area Categories

#### **Category Ia - Strict Nature Reserve, protected area managed mainly for research.**

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

*Objectives of management:*

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

*Guidance for selection:*

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

**Category Ib - Wilderness Area: protected area managed mainly for wilderness protection**

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

*Objectives of management:*

- To ensure that future generations have the opportunity to experience understanding and enjoyment of areas largely undisturbed by human action over a long period of time
- To maintain the essential natural attributes and qualities of the environment over the long term
- To provide for public access at levels and of a type which will serve best the physical and spiritual well-being of visitors and maintain the wilderness qualities of the area for present and future generations
- To enable indigenous human communities living at low density and in balance with the available resources to maintain their lifestyle

*Guidance for selection:*

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



**Category II - National Park: protected area managed mainly for ecosystem protection and tourism**

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

*Objectives of management:*

- To protect natural and scenic areas of national and international significance for spiritual, scientific, educational, recreational or tourist purposes
- To perpetuate, in as natural a state as possible, representative examples of physiographic regions, biotic communities, genetic resources, and species, to provide ecological stability and diversity
- To manage visitor use for inspirational, educational, cultural and recreational purposes at a level which will maintain the area in a natural or near natural state
- To eliminate and thereafter prevent exploitation or occupation inimical to the purposes of designation
- To maintain respect for the ecological, geomorphologic, sacred or aesthetic attributes which warranted designation
- To take into account the needs of indigenous people, including subsistence resource use, in so far as these will not adversely affect the other objectives of management

*Guidance for selection:*

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

**Category III - Natural Monument: protected area managed mainly for conservation of specific natural features**

*Definition:* Area containing one, or more, specific natural or natural/cultural features which may be of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.

*Objectives of management:*

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

*Guidance for selection:*

- The area should contain one or more features of outstanding significance (appropriate natural features include spectacular waterfalls, caves, craters, fossil beds, sand dunes and marine features, along with unique or representative fauna and flora; associated cultural features might include cave dwellings, cliff-top forts, archaeological sites, or natural sites which have heritage significance to indigenous peoples).
- The area should be large enough to protect the integrity of the feature and its immediately related surroundings.

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

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

*Objectives of management:*

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

*Guidance for selection:*

- The area should play an important role in the protection of nature and the survival of species (incorporating, as appropriate, breeding areas, wetlands, coral reefs, estuaries, grasslands, forests or spawning areas, including marine feeding beds).
- The area should be one where the protection of the habitat is essential to the well-being of nationally or locally important flora, or to resident or migratory fauna.
- Conservation of these habitats and species should depend upon active intervention by the management authority, if necessary through habitat manipulation.
- The size of the area should depend on the habitat requirements of the species to be protected and may range from relatively small to very extensive.

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

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

*Objectives of management:*

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

*Guidance for selection:*

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

**Category VI - Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems**

*Definition:* Area containing predominantly unmodified natural systems, managed to ensure long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs. The area must also fit the overall definition of a protected area.

*Objectives of management:*

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

*Guidance for selection:*

- At least two-thirds of the area should be in, and is planned to remain in, a natural condition, although it may also contain limited areas of modified ecosystems; large commercial plantations are not to be included.
- The area should be large enough to absorb sustainable resource uses without detriment to its overall long-term natural values.
- A management authority must be in place.

Source: Salm and Clarke 1984

8.4. Protected Areas Established Under the *Fauna (P&C) Act*

Year	Name	Type of Area	Terres./ Marine	Province	Gazette No.	Size (in ha)	Remarks/ If rules are included
1996	Kamiali	WMA	T/M	Morobe	77/96	47,413	Rules included?
1994	Crater Mountain	WMA	T	Eastern Highlands	?/94	260,000	Rules included?
1992	Lake Kutubu	WMA	T	Southern Highlands	?/92	209	No rules gazetted
1991	Lihir Island	Protected Area	T	New Ireland	?/91	2	Protection of Common scrub fowl
1989	Pirung	WMA	M	North Solomons	33/89	44,200	No rules gazetted
1990	Mt Kaindi	WMA	T	Morobe	16/90	1,502	No rules gazetted
1987	Iomare	WMA	T	Central	87/81	3,827	No rules gazetted
1987	Neiru	WMA	T	Gulf	87/81	3,984	?
1986	Nuserang	WMA	T	Morobe	63/86	22	No rules gazetted
1985	Ndrolowa	Sanctuary	M/T	Manus	16/85	5,850	Rules included*
1981	Zo-Oimaga	WMA	T	Central	18/81	1,500	No rules gazetted
1981	Lake Lavu	WMA	T	Milne Bay	18/81	2,640	No rules gazetted
1981	Oia-Mada Waa	WMA	T	Milne Bay	62/81	22,840	?
1978	Maza	WMA	M	Western	99/78	184,230	Rules included
1978	Mojirau	WMA	T	East Sepik	54/78	5,079	Rules included
1977	Ranba	WMA	T	Madang	54/77	41,922	Rules included
1977	Ranba	Sanctuary	T	Madang	61/77	15,724	Rules included*
1977	Long Island	Sanctuary	M	Madang	?/77	15,724	Rules included*
1977	Bagiai	WMA	M	Madang	07/77	13,760	Rules included

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1977	Balek	Sanctuary	M	Madang	62/77	470	Rules included*
1977	Crown Island	Sanctuary	M	Madang	?/77	58,969	Rules included*
1977	Siwi-Utame	WMA	T	Southern Highlands	?/77	12,540	Rules included
1976	Sawataetae	WMA	T	Milne Bay	?/76	700	Rules included
1976	Garu	WMA	T	West New Britain	97/76	8,700	Rules included
1975	Pokili	WMA	T	West New Britain	50/75	9,840	Rules included
1975	Tonda	WMA	T	Western	07/75	590,000	Rules included
1975	Baniara Island	Protected Area	M	Milne Bay	09/75	15	Protection of Agile Wallaby

Source: Whimp1995, Jenkins and Kula no date, Hedemark and Sekhran 1994: 349 table 20.2 ,WCMC 2000, OEC Computer file 2000.

\* In the case of sanctuaries all hunting for fauna is prohibited. Therefore rules are implicit in the declaration and need not be separately gazetted as in the case of WMAs and other protected areas under the *Papua New Guinea Fauna (P&C) Act*.

### 8.5. Protected Areas Established Under the *National Parks Act*

Date	Name	Province	Terrestrial/ Marine	Size (Ha)	Gazetted	Remarks
1991	Mt. Wilhelm National Park	Simbu	T	810	17/05/91	Conflict with landowners
1991	Jimi National Park	Western Highlands	T	4,180	03/10/91	National Park
1991	Lorko	West New Britain				Provincial park
1989	Gahavisuka National Park	Eastern Highlands	T	77	27/7/1989	National Park: leased for 49 years
1987	Paga Hill	NCD	T	13	17/1/1987	Under pressure from settlers
1979	Namanatabu	Central	T	27	15/3/1979	Crown land bought during colonial period
1978	Varirata National Park	Central	T	1,063	7/12/1978	Recreational nature reserve for Urban Port Moresby
1973	Cape Wom Memorial Park	East Sepik	T	105	??/1973	Historical reserve: site of Japanese surrender
1973	Nanook Island	East New Britain	T	18	12/6/1973	National Park: Protection up to high water mark
1973	Talele Island park	East New Britain	M	12	1973	Nature reserve
1970	McAdams National Park	Morobe	T	2,080	01/07/1970	National Park
1968	Baiyer River	Western Highlands		740	03/01/1968	Sanctuary

WCMC 2000, WHIMP 1996, JENKINS AND KULA NO DATE; HEDEMARK AND SEKHRAN 1994





## 8.6. Declared and Potential Protected Areas in Milne Bay Province

Area	Grid location	Date Proposed	Date Declared	Gazette no.	Category	Area (ha)	Altitude	Habitat/ ecosystem type	Importance
<b>Gazetted</b>									
Baniara Island	9 <sup>0</sup> 46'S 149 <sup>0</sup> 52'E		31/1/75	G9/75	PA	14.54	0-40	Grassland, littoral forests & coconut stand	Protect sand & agile wallaby
Lake Lavu	?		17/2/81	G18/81	WMA	2,640	0-40	Freshwater lake, lowland hill forest grassland	Only remaining natural forest in the area
Oia-mada Waa	?		17/1/81	G62/81	WMA	22,840	200-2,000	Lowland hill forest montane forests	Control hunting
Sawataetae	9 <sup>0</sup> 90'S 151 <sup>0</sup> 01'E		16/6/77	G54/77	S	700	0-120	Regrowth, coconut stands, montane forest	Conserve fauna
<b>Proposed</b>									
Mt. Simpson	149 <sup>0</sup> 38'E 10 <sup>0</sup> 3'S				NP	8,083	1,000-2,883		Scenic, general Conservation
Raiba Caves	151 <sup>0</sup> 6'E 8 <sup>0</sup> 30'S	1978			HS	404	40-120		Limestone caves, Archaeological interest
Eastern islands	151 <sup>0</sup> 0'E 10 <sup>0</sup> 30'S	1980			MR	?	0-40	Coral reefs	Recreation & protect Marine life
Pockington Reef	11 <sup>0</sup> 22' 154 <sup>0</sup> 11'	1980			SNR	?	Sea level	Coral reefs	Recreation

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Bramble Haven	11 <sup>0</sup> 13' 152 <sup>0</sup> 00'	1976	WMA	?	0-40		Protect sea birds, marine life
Ruaba	9 <sup>0</sup> 42' 149 <sup>0</sup> 36'	1978	WMA	?	40-200		Control hunting of sand wallaby
Lunn Island, Conflict Group	?	?	MP	?	Sea level	Coral reefs	Protect sea birds, clam shells
Trobriand Island	8 <sup>0</sup> 29' 151 <sup>0</sup> 04'	?	MP	?	Sea level	Coral reefs	Protect sea birds, turtles
Woodlark Island	8 <sup>0</sup> 55' 152 <sup>0</sup> 45'	?	MP	?	Sea level	Coral reefs	Protect sea birds, turtles
Fergusson Island	09 <sup>0</sup> 32' 150 <sup>0</sup> 41'	?	MP	?	Sea level	Coral reefs	Protect sea birds, turtles

Source: Computer file OEC 2000

## 8.7. Protected Fauna under the Fauna (P&amp;C) Act

<b>Class</b>	<b>Mammals</b>	
<b>Order</b>	<b>Monotremata</b>	
<b>Family</b>	<b>Tachyglossidae</b>	
	<i>Zaglossus bruijnii</i>	Long Beaked Echidna
<b>Order</b>	<b>Diprodontia</b>	
<b>Family</b>	<b>Phalangeridae</b>	
	<i>Spiloglossus rufoniger</i>	Black Spotted Cuscus
<b>Family</b>	<b>Macropodidae</b>	
	<i>Dendrolagus dorianus</i>	Doria's Tree-Kangaroo
	<i>Dendrolagus goodfellowi</i>	Good Fellow's Tree Kangaroo
	<i>Dendrolagus inustus</i>	Grizzled Tree-Kangaroo
	<i>Dendrolagus matschiei</i>	Huon Tree-Kangaroo
	<i>Dendrolagus scottae</i>	Scott's Tree-Kangaroo
	<i>Dendrolagus spadix</i>	Lowland Tree-Kangaroo
	<i>Dendrolagus ursinus</i>	White-throated Tree-Kangaroo
	<i>Dorcopsis atrata</i>	Black Dorcopsis Wallaby
<b>Order</b>	<b>Chiroptera</b>	
<b>Family</b>	<b>Pteropodidae</b>	
	<i>Apoteles bulmerae</i>	Bulmer's Fruit Bat
<b>Order</b>	<b>Sirenia</b>	
<b>Family</b>	<b>Dugongidae</b>	
	<i>Dugong dugong</i>	Dugong, Sea Cow
<b>Class</b>	<b>Birds</b>	
<b>Family</b>	<b>Ardeidae</b>	<b>Egrets</b>
	<i>Egretta alba</i>	Greater or White Egret
	<i>Egretta intermedia</i>	Lesser or plumed Egret
	<i>Egretta garzetta</i>	Little Egret
<b>Family</b>	<b>Anatidae</b>	<b>Ducks and Swans</b>
	<i>Anas waigiuiensis</i>	Salvadori's Teal
<b>Family</b>	<b>Acipitridae</b>	<b>Hawks, Kites and Eagles</b>
	<i>Harpyopsis novaeguineae</i>	New Guinea Harpy Eagle
	<i>Pandion haliaetus</i>	Osprey
<b>Family</b>	<b>Columbidae</b>	<b>Pigeons and Doves</b>
	<i>Ducula finschii</i>	Finsch's Imperial Pigeon
	<i>Ducula rubricera</i>	Red Knobbed Imperial Pigeon
	<i>Goura christata</i>	Western Crowned Pigeon
	<i>Goura scheepmakeri</i>	Scheepmaker's Crowned Pigeon
	<i>Goura victoria</i>	Victoria Crowned Pigeon
<b>Family</b>	<b>Psittacidae</b>	<b>Parrots, Lorries and Cockatoos</b>
	<i>Probosciger atterimus</i>	Palm Cockatoo

	<i>Psittichas fulgidus</i>	Vulturine Parrot
<b>Family</b>	<b>Bucerotidae</b> <i>Rhyticeros plicatus</i>	<b>Hornbills</b> Papuan Hornbill
<b>Order</b>	<b>Passeriformes</b>	
<b>Family</b>	<b>Paradisaeidae</b> <i>Astrapia mayeri</i> <i>Astrapia nigra</i> <i>Astrapia rothschildi</i> <i>Astrapia splendissima</i> <i>Astrapia stephaniae</i> <i>Cicinnurus magnificus</i> <i>Cicinnurus regius</i> <i>Cicinnurus republica</i> <i>Cnemophilus loriae</i> <i>Cnemophilus macgregori</i> <i>Epimachus albertisi</i> <i>Epimachus bruinjii</i> <i>Epimachus fastosus</i> <i>Epimachus meyeri</i> <i>Loboparadisea sericea</i> <i>Lophorina superba</i> <i>Macgregoria pulchra</i> <i>Manucodia atra</i> <i>Manucodia chalybata</i> <i>Manucodia comrii</i> <i>Manucodia jobiensis</i> <i>Manucodia keraudrenii</i> <i>Paradigalla carunculata</i> <i>Paradigalla brevicauda</i> <i>Paradisea apoda</i> <i>Paradisea decora</i> <i>Paradisea guilielmi</i> <i>Paradisea minor</i> <i>Paradisea raggiana</i> <i>Paradisea rubra</i> <i>Paradisea rudolphi</i> <i>Parotia carolae</i> <i>Parotia lawesii</i> <i>Pteridophora alberti</i> <i>Seleucidis melanoleuca</i>	<b>Birds of Paradise, Rifle &amp; Trumpet birds</b> Ribbon-tailed Bird of Paradise Arfak Astrapia Huon Astrapia Splendid Astrapia Stephanie's Astrapia Magnificent Bird of Paradise King Bird of Paradise Wilson's Bird of Paradise Loria's Bird of Paradise Crested Bird of Paradise Buff-tailed Sicklebill Pale-billed Sicklebill Black Sicklebill Brown Sicklebill Yellow-breasted Bird of Paradise Superb Bird of Paradise Macgregor's Bird of Paradise Glossy-mantled Manucode Crinkle-collared Manucode Curl-crested Manucode Jobi Manucode Trumpet Manucode Long-tailed Paradigalla Short-tailed Paradigalla Greater Bird of Paradise Goldie's Bird of Paradise Emperor's Bird of Paradise Lesser Bird of Paradise Raggiana's Bird of Paradise Red Bird of Paradise Blue Bird of Paradise Carola's Parotia Lawe's parotia King Saxony Bird of Paradise Twelve-wired Bird of Paradise
<b>Class</b>	<b>Reptiles</b>	
<b>Family</b>	<b>Dermochelyidae</b> <i>Dermochelys coriacea</i>	Leatherback Turtle
<b>Order</b>	<b>Snakes</b>	
<b>Family</b>	<b>Boidae</b> <i>Python boeleni</i>	Boelen's Python
<b>Class</b>	<b>Fishes</b> <i>Salmo trutta</i>	Brown trout (< 203 mm length)

*Salmo gairdneri*

Rainbow trout (< 203 mm length)

**Class**  
**Family**

**Insects**

**Papilionidae**

*Ornithoptera alexandrea*

*Ornithoptera allotiei*

*Ornithoptera chimaera*

*Ornithoptera goliath*

*Ornithoptera meridionalis*

*Ornithoptera paradisea*

*Ornithoptera victoria*

**Birdwing butterflies**

Q. Alexandra's Birdwing butterfly

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Source: DEC 1996, compiled by G.Kula and I. George

**8.8. Area Protection Under Sect. 30 of the Fisheries Management Act:**

An example of the protection schedule used by TNC-PNG in Kimbe Bay

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**Fisheries Management Act 1998****Notice of Prohibition of taking Fish from Reefs**

I,...., Chairman of the national Fisheries Board, by virtue of the powers conferred by section 30 (30) of the Fisheries Management Act and upon recommendation of the National Fisheries Authority, hereby prohibit at all times the taking of fish from the reefs, inclusive of waters 30 meters from the edge of the reefs as specified in the Schedule

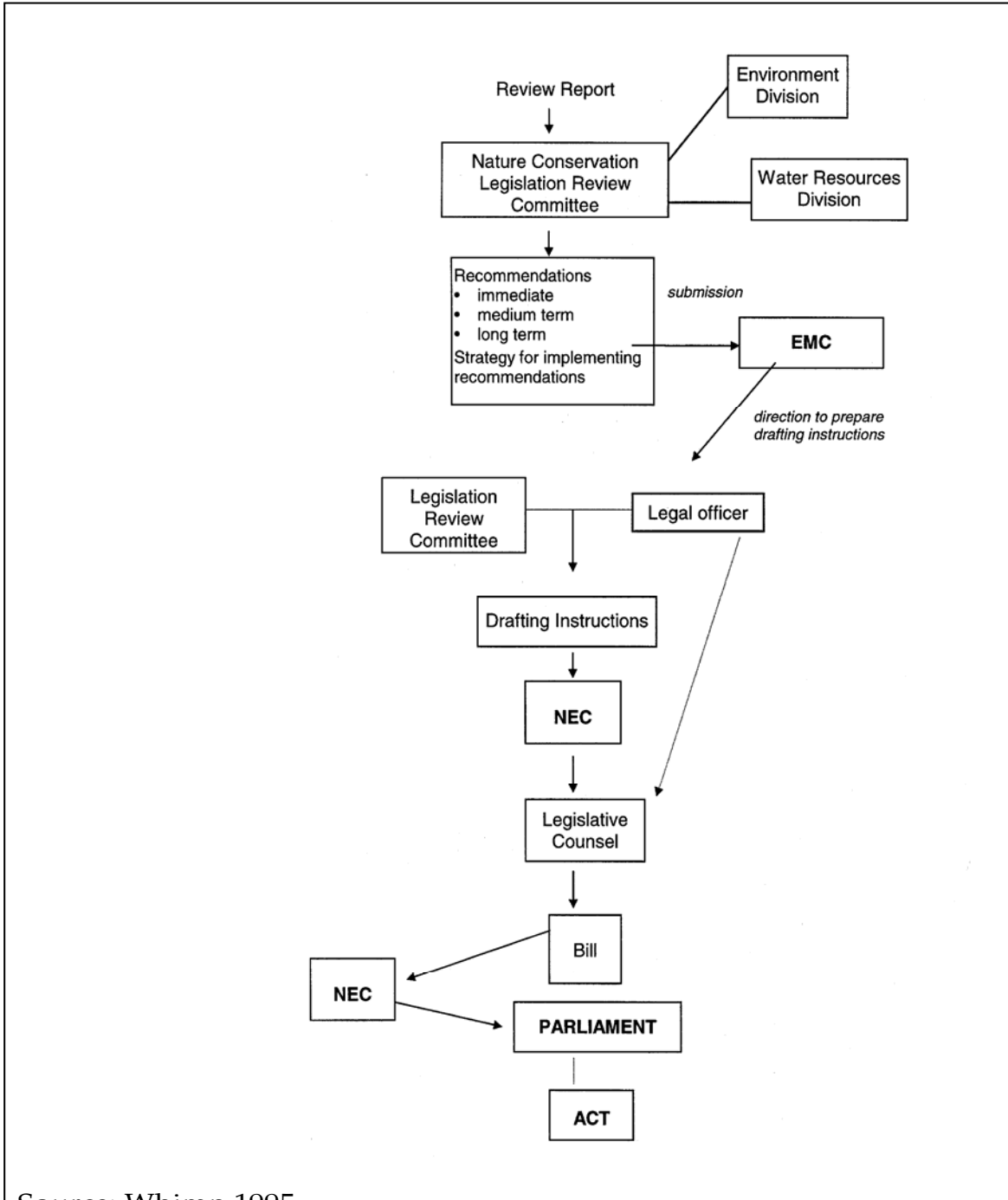
<b>REEF</b>	<b>POSITION</b>
Gawa Gawa	S 05.26.236 E 150.05.552
Lady Diana	S 05.26.509 E 150.05.917
Limuka	S 05.26.194 E 150.05.857
Madaro	S 05.26.085 E 150.05.332

Dated this ... day of .....

.....

National Fisheries Board Chairman

8.9. Schematic Overview of Legal Amendment Process



Source: Whimp 1995