

The Maza Wildlife Management Area, Western Province, Papua New Guinea: The Resources and Its Management

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Introduction

The Maza Wildlife Management Area (WMA) is one of few marine conservation areas in Papua New Guinea. The area was declared under the Fauna (Protection and Control) Act, chapter 154, for Marine Conservation especially for dugongs and marine turtles on the 7th day of December 1978.

The declaration of the area was the result of a three year study on the marine mammal *dugong dugon* sponsored both by the Food and Agriculture Organization (F.A.O.), and the Papua New Guinea Government Department of Environment and Conservation.

A research biologist, Mrs B. Hudson, was engaged to study the dugong's biology, ecology and ethnobiology and to make recommendations to the Government of Papua New Guinea for its protection and management. Her studies revealed that without proper management, these slow breeding mammals were threatened with extinction as the populations were decreasing due to increased catches from use of new techniques and better fishing methods.

A thorough survey of the animals feeding range and migration patterns revealed that the animal was covering a large area for feeding and breeding hence a large area was necessary for the effective conservation of the species.

The Maza Wildlife Management Area is located in the Western Province of Papua New Guinea. The boundaries of the management area starts from the Binaturi river

on the West, to Moon Passage in Warrior Reef complex in the south then East on Parama island. The management area covers a total of 184,230 hectares.

No specific studies have been done to report on the marine resources of the Maza Wildlife Management Area, since the dugong studies. Studies independent of the Department of Environment and Conservation have been done by other Government Departments on specific species in and around the Maza Wildlife Management Area.

The Department of Fisheries and Marine Resources in particular has done extensive studies on the prawn, lobster and barramundi fisheries in the area. Catch statistics on turtles, trochus, mother-of-pearl oysters and beche-de-mer have also been kept while turtle biology is an area of interest by previous fisheries research officers and some overseas researchers.

The Department of Fisheries and Marine Resources currently have personnel in Daru who continue to collect data on the above Fisheries.

The Resources of the Maza Wildlife Management Area

Maza Wildlife Management Area is a marine conservation area with extensive seagrass beds, coral reefs and mangroves. The area is rich in marine resources especially those associated with coral reefs, seagrass beds and mangroves. The list of marine resources is inconclusive as the area is very extensive and much time, effort and money will be required to do a thorough list of the resources of the area. The spiny lobster fisheries, prawn fisheries and the barramundi fisheries are some commercial operations within the area. Trochus shells, beche-der-mer and the mother-of-pearl shells are also common in the area. Fish, turtles, dugongs and many invertebrates are of subsistence importance in the area.

Coral Reefs

The Maza Wildlife Management Area has within it several large coral reefs. The largest of these is Wapa reef, an extension of the Warrior Reef. The Auomaza Reef from which the management area got its name is also quite large. Other notable reefs in the area are the Gemini Reefs, Silver Reefs, Kokopi Reefs, Parakivori Reefs, Kumusi Reefs, Otamabu Reefs and the home reefs of Tureture and Parama villages.

Seagrass beds

Most of the large reefs in the area have seagrass communities. The seagrass beds are among the most extensive in the world. These beds provide nursery grounds for prawns, trochus, pearl oysters, lobsters, fish and many invertebrates. The seagrass beds are especially important for the survival of dugongs, turtles and many fish as these are the major feeding grounds for these animals.

Mangroves

Mangroves are known for their importance in marine productivity and energy transfers to the nearby coral reefs. Besides this important function they are also important as nursery grounds especially for the barramundi and the banana prawns.

Mangroves also have important roles in land stabilization and accretion. Their roles in providing energy (firewood), building materials and other subsistence needs are widely appreciated facts.

Within the mangroves, other marine resources include the mud crabs *Scylla serratta*. However, smaller and smaller sizes are brought into the Daru market meaning the collecting of crabs is putting pressure on populations on Daru Island and the adjacent Bistrow Island.

Mangroves provide shelter and nesting places for many birds. Flocks of sandpipers, cormorants and other sea birds are seen nesting in the mangroves especially on Bistrow Island. An exciting site for mangroves and sea birds is the Otomabu Reef; where single stands of several mangrove species are found spread over a large area creating resting places for many different species of sea birds. Large numbers of pelicans, common sandpipers, cormorants, egrets perch on these trees at high tide and may be seen wading in the shallow pools at lowtide. An added attraction is the large sand bar on Potomaza, which is used commonly by seabirds.

Islands and sand spits

There exists within the management area several islands and sand spits. These islands (Daru and Bristow) and the sand spits provide shelter and protection for many seabirds. Many sea birds are also seen wading in the shallows at lowtide in the management area along the coast and near the islands. Migratory birds are often seen on the islands during migrations north from Australia.

Wildlife utilizations

Marine resources provide an important source of protein for the Kiwai people. The herbivorous fishes (garfish and rabbit fishes) seem to be the most important as great numbers are common in the fish market. The white fish (trevelleys) and barramundi are also very common. However, coral reef fish are not common in the market. Invertebrates including crabs, various gastropods and bivalves, especially from the mangroves can also be seen in the Daru Market. Birds sold in the market include wild ducks and cassowary.

The Management of the Maza Wildlife Management Area

The Maza Wildlife Management Area is managed by a management committee representing local villages and communities. The Committee has an executive chairman who oversees the operation of the committee. The committee's responsibility is to enforce the management rules and collect fees as outlined in the rules (See Attachment).

The Concept

The Maza Wildlife Management area is managed especially for the protection of dugongs and turtles. The WMA concept is to create conservation areas without loss of land by village people and to engage the local people in the management of their own resources. The Maza WMA is a conservation area created under the WMA concept.

The management of the area is the responsibility of the elected committee therefore its success depends on the will, the ability and the eagerness of the committee. The Department of Environment and Conservation has two roles. Firstly it assists in the identifying of the boundaries, the committee and in drawing up the regulations. Secondly, the department provides advice and assistance where necessary from time to time to the Management Committee.

The Management Concerns in the Maza Wildlife Management Area.

The management committee is currently concerned that the village people are starting to break the management rules by taking turtles and dugongs illegally. Dugongs are sold on the black markets to avoid detection by committee members while turtles are taken to the markets and sold without the notice of the committee members.

The committee is aware of the illegal activities but is unable to enforce the rules because it lacks knowledge of offenders, and taking them through the legal system for successful prosecution is time-consuming and difficult. Also, the committee is disintegrated and disorganized due to lack of regular meetings to discuss their strategies for enforcing the rules. The non-attendance of members for meetings is due to the inability of the committee to meet travel expenses of committee members. The committee lacks basic facilities needed for the management of the area. For example, the lack of a dinghy and an outboard motor to track down offenders is a major concern.

The inability to manage the area can also be attributed to the lack of support and guidance from National Government agencies. The Government has failed to teach basic skills of management to members of the committee, most of whom have very little education, and therefore, the committee lacks the managerial skills needed to control the management areas.

The committee expressed concern over the indiscriminate cutting of mangroves for firewood, and for building materials in the settlements, especially on Daru, where people from the Kiwai islands are moving in to settle. The management of mangrove resources is not covered by the management regulations, therefore, the committee is concerned the mangrove resources will be seriously depleted.

Common problems experienced by the committee in the Wildlife Management Area are:

- The difficulties of apprehending offenders and the lack of knowledge in the prosecution of offenders makes it difficult to enforce the management rules.
- The lack of revenue and funds to meet member expenses and management costs has led to the failure of members to attend meetings to review management strategies.
- The lack of basic management facilities such as dinghies and outboard motors has resulted in the non-management of the area.
- The lack of support and assistance from government departments has resulted in the committee ignoring their responsibility to manage the area.

Some suggestions to solve the above problems

The management concerns expressed by the committee suggest that the major problems are a of lack of finance, basic management knowledge and facilities. It is obvious that the committee needs financial support to be able to carry out its management functions. Therefore a revenue generating mechanism is necessary for the committee to meet the costs of their management functions. While royalty fees can be collected from the sale of turtles and dugongs the revenue generated is so small it is inadequate to meet the management costs. Other means of generating revenue must be provided. The committee believes that commercial operators in the management area should be levied a management levy payable to the committee. It should be possible to negotiate a mechanism with Fisheries and Marine Resources for the management levy to be collected and paid to the management committee.

The Western Provincial Government and the Department of Environment and Conservation should help the committee to seek assistance from organisation such as the Office of International Development Assistance (OIDA) and foreign embassies for management facilities or in the establishment of guest houses for tourists as income generating options. Maza Wildlife Management Area has some tourist attractions in the coral reefs and the mangroves. The Otamabu Reefs are used by many seabirds as nesting places and the sand bars on Potomaza provides good B.B.Q. sites while birdwatching in the nearby Otamabu Reefs. Daru has become the centre of activity for all the different ethnic groups of the Western Province. Engaging the committee in providing facilities and services for tourism could bring in good revenue for the management committee.

As the committee lacks resource management skills the Department of Environment and Conservation could provide training programs to educate the committee on resource management. The Department could also assist by providing copies of the Maza Wildlife Management Area rules and the copies of the Fauna (Protection and Control) Acts to the Department of Western Province who could then assist the committee to enforce the rules.

The current rules of the management area should be reviewed and amended where necessary to include new rules to improve the management of the area. The committee should be allowed to carry out activities which are consistent and not contrary to conservation ethics. The change of rules should provide for better management regulations suitable to the changing situation in the Western Province. Other Government authorities (eg. the Police and Magistrates office, the Department of Western Province), should be made aware of the existences of the Maza Wildlife Management Area and asked to assist the committee in their own ways to help manage the area.

Other researchers (overseas or local) should be encouraged to collect data on the Maza Wildlife Management Area as the information can be used for making management decisions about the area.

Concluding Statement

Maza Wildlife Management Area provides one of the most important Marine Conservation Areas (WMA) in Papua New Guinea, therefore the successful management of the area is important. It is clear that continuous dialogue and consultation between the Government and the people is necessary to enable the people to maintain the area successfully and provide a basis for the effective management of marine resources such as dugongs and turtles.

Attachment

THE INDEPENDENT STATE OF PAPUA NEW GUINEA
STATUTORY INSTRUMENT.

No. 4 of 1981

Fauna (Protection and Control) Maza Wildlife Management area rules 1981.

Being by the Minister after consultation with the Maza Wildlife Management Committee under the Fauna (Protection and Control) Act 1966.

1 - INTERPRETATION.

In these Rules, unless the contrary intention appears-

"the Area" means the Maza Wildlife Management Area;

"the Committee" means the Maza Wildlife Management Committee.

2 - RESTRICTION OF TAKING, ETC., OF DUGONG.

(1) Subject to Subsection (2), a person may at any time take catch or kill a dugong within the area by the traditional hand-harpoon method from a canoe, whether powered by out-board engine or otherwise.

(2) A person shall not take, catch or kill -

(a) a mother dugong or a baby dugong within the area; or

(b) a dugong, other than a mother or a baby dugong, except in accordance with Subsection (1)

3 - RESTRICTION ON USE OF NETS IN THE AREA.

(1) A person may use a net to take or catch Barramundi within the area and for that purpose shall only use a net the mesh size of which is 15.2 centimetres.

(2) Notwithstanding Subsection (1), a person shall not use, in the reef areas around Bobo and Daru Islands, a net the mesh size of which is over 5.1 centimetres.

4 - SELLING OF DUGONG AND TURTLE.

(1) A dugong or turtle taken or caught within the Area may only be sold in the market at Daru and in the case of a dugong-

(a) only one dugong may be brought in for sale at any one time; and

(b) the dugong shall be of 2.4 metres or above in length.

(2) Where a person intends to sell a dugong or a turtle in the market at Daru he shall, before offering it for sale-

(a) in the case of a dugong, bring it, in whole, to the Daru Wildlife Division Dugong Project Office for inspection by -

- (i) a Wildlife Officer; or
- (ii) a member of the Committee; or
- (iii) a person authorized by a Wildlife Officer or member of the Committee; and

(b) pay to a member of the Committee or a person authorized by him, the total amount of royalty payable on a turtle or a dugong, as the case may be; and

(c) on payment of the royalty under Paragraph (b), be issued a receipt which shall be endorsed with -

- (i) the name and village of the owner of the turtle or dugong; and
- (ii) the amount of the royalty; and
- (iii) the signature of the member of the Committee or the person authorized by him.

5 - ROYALTY.

A person who intends to sell a dugong or turtle in the market at Daru shall pay a royalty of K5.00 for each dugong and K1.00 for each turtle.

6 - PENALTY.

A person who, without reasonable cause (the burden of proof of which is on him, contravenes or fails to comply with a provision of these rules is liable to the appropriate penalties set out in the Act.

7 - REPEALED RULES.

The Fauna (Protection and Control) (Maza Wildlife Management Area) Rules 1979 are repealed.

DATED this day of , 1981.

MINISTER FOR ENVIRONMENT AND CONSERVATION.

THE INDEPENDENT STATE OF PAPUA NEW GUINEA

STATUTORY INSTRUMENT

No. of 1979

Fauna (Protection and Control) (Maza Wildlife Management Area) Rules 1979.

MADE by the Minister after consultation with the Maza Wildlife Management Committee under the Fauna (Protection and Control) Act 1966.

1 - INTERPRETATION.

In these Rules, unless the contrary intention appears -

"the Area" means the Maza Wildlife Management Area.

2 - TRADITIONAL HAND-HARPOON METHOD MAY BE USED,

A person may at any time take or catch a dugong within the Area by the traditional hand-harpoon method from a canoe, whether powered by out-board engine or otherwise.

3 - RESTRICTION ON NETTING DUGONGS.

(1) A person shall not take or catch a dugong within the Area by means of a net except-

- (a) during the months of May, June and July, and
- (b) in the immediate area of Daru Island.

(2) Where a net is used to take or catch a dugong the mesh size shall not exceed ten inches.

4 - BEST ENDEAVOURS NOT TO TAKE, ETC., MOTHER OR BABY.

A person shall use his best endeavour not to take, catch or kill within the Area a mother dugong or a baby dugong.

5 - SELLING OF DUGONGS.

(1) A dugong taken or caught within the area may only be sold in the market at Daru.

(2) Where a person intends to sell a dugong in the market at Daru he shall, prior to offering it for sale, bring it to the Daru Wildlife Division Dugong Project Office for inspection by -

- (a) a Wildlife Officer; or
- (b) a member of the Maza Wildlife Management Committee; or
- (c) any person authorised by a Wildlife Officer or member of the Maza Management Committee.

6 - PENALTY.

A person who, without reasonable cause, (the burden or proof of which is on him), contravenes or fails to comply with a provision of these Rules is liable to the appropriate penalties set out in the Act.

DATED the 13 day of 1/79. 1979.

MINISTER FOR THE ENVIRONMENT AND CONSERVATION.

