

Name of Protected Area: Garu Wildlife Management Area

Part 1: Basic information about the protected area

Table 1. Protected area information

Name, organisation and contact details for person(s) conducting the assessment Person 1: Name, Organisation, Address, Email, Phone	Greg Peterson, SPREP/Protected Area Solutions, 283 Madill Road, Tandur, Q4570, Australia, gregpeterson53@hotmail.com, 0414300955
Person 2: Name, Organisation, Address, Email, Phone	Ovin Wafewa, UNDP, P O Box 1041 Port Moresby, ovin.wafewa@undp.org;3212877
Today's Date	8/06/2016
Name (or names) of protected area	Garu Wildlife Management Area
Size of protected area (ha)	8,000 (700ha was excised by Oil Palm Industry Corporation)
PNG Code or number	997
World Database of Protected Areas site code (these codes can be found on www.unep-wcmc.org/wdpa/)	36172
What level or kind of protected area is it? (National Park, Wildlife Management Area, Sanctuary, Reserve, Locally Managed Marine Area etc)	Wildlife Management Area
IUCN Category	
International protected area? e.g. World Heritage or Ramsar?	
Country	Papua New Guinea
Province/s	West New Britain Province
District/s	Talasea Rural
Local level governments	Talasea
Ward/s	9
Nearest big town	Kimbe
Location of protected area (brief description)	Located west of Kimbe. The boundary follows the edge of the fringing reef and extends upwards to the mountains, to elevations around 600m. Several streams flow in a radial pattern to the sea. Vegetation consists of forest, woodland and scrub.
Map references	
When was the protected area gazetted or formally established?	1/12/1976
Reference for gazettal or Memorandum of Understanding (MoU)	
Who owns the protected area? please enter Government Private Community/ customary landowners, private, Other (name) and include Clan name(s)	Customary landowners (Clans - Garu, Bere, Kavutu and Vagulu)
Number of households living in the protected area	Approx 350

Population size within the protected area	Approximate 1750
Who manages the protected area?(e.g. please enter government, customary landowners [add clan names] management committee [how many and what gender])	Customary land owners - Garu, Bere, Kavutu and Vagulu
Total number of staff (this means anyone working on the protected area in paid jobs –whether NGOs, community, rangers or customary landowners	19 (3 MND staff, 16 village Committees)
<i>Temporary paid workers</i>	3 (MND staff)
<i>Permanent paid workers</i>	0
Annual budget (US\$) – excluding staff salary costs	0
Operational (recurrent) funds	0
Project or special funds	0
Reason for park establishment	To stop land grabbing and to protect the megapodes
What are the main values for which the area is designated (Fill this out after data sheet 2)	Cultural values, stone inscriptions and sacred sites
List the primary protected area management objectives (add lines if needed after the most important objectives): <i>Management objective 1</i>	Conserve environment for economic benefits
<i>Management objective 2</i>	Conserve for traditional values
<i>Management objective 3</i>	Preserve natural resources for future generations
Number of people involved in answering the assessment questions	6
Name/organisation/contact details of people participating the assessment (Please do not insert return/enter or dot points)	<i>Stephanie Tangole</i> , Mahonia Na Dari, PO Box 697 Kimbe, WNB, stephanie.tangole@gmail.com, 72289764; <i>George Ulae</i> , Mahonia Na Dari (as above), george.ulae@gmail.com, 71532617; <i>Nellie Bou</i> , Mahonia Na Dari (as above), rhinowosp@gmail.com, 73870227; <i>Kepa Kumilgo</i> , UNDP/CEPA, kepa.kumilyie.undp.org; <i>Fabian Nomu</i> , Garu WMA, <i>Daniel Bakani</i> , Garu WMA.
Customary landowners/other community; CEPA, Other national government agency; Provincial govt; local level govt; Protected area staff (anyone working on the protected area in paid jobs; NGO; Donors; External experts; Others	Garu Customary landowners, Mahonai Na Dari (local NGO), WNB Division of Forestry/Env/Climate Change, UNDP/CEPA.
Please note if assessment was carried out in association with a particular project, on behalf of an organisation or donor.	SPREP through the PNG Protected Area Assessment Project, which is a component of the GEF Community-based Forest and Coastal Conservation and Resource Management Project in PNG.

Part 2: What makes this protected area special and important?

The main reason to establish the WMA was to stop land grabbing. In the past, some people advised our leaders to put the land into a protected area – to stop land grabbing and to protect the megapodes. We want to protect our customary values and traditions and to use the WMA to obtain customary materials for ceremonies and other uses. Customary landowners rely on the forest and land for their everyday uses (build houses). Some timber is used in small scale logging to enable us to build houses and earn money. We are going into ecotourism – there are hot springs with valuable minerals. We use the area to teach our children about our land and wildlife (the megapodes). There is a creek with stones and there is evidence of inscriptions on stones. There is special red soil used to for painting. There is sago in this area and we use this for food and building materials. The WMA is important for animals – we use them for hunting. There is a sacred place for the wallaby. Wallaby have a special meeting place and they have a leader (usually smaller than the other wallabies) and the wallabies gather and ‘listen’ to the small wallaby. They inhabit the lowland grassland & woodland swampy area. Also there are some research activities. Blue Cassowary and also another type of cassowary species are found here.

Table 2. Key values of the protected area

No.	Key values	Brief description	Note if endangered species or ecosystem (IUCN)
1	To protect cultural values e.g. traditional sacred sites	There is a stone with inscriptions from the past and special red soil which is used as paint for ceremonies. There is a special place where wallabies come to meet and where their leader, a small wallaby addresses the group and tells them what will happen for the day.	
2	The bush	People depend on the bush – it provides timber (e.g. there is a small sawmill in the protected area); also sago, for food and building material; and animals in the forest are hunted.	
3	Economic value of megapodes and megapode eggs	Provide a good return to the community as well as a good source of protein.	
4	Ecotourism	There are many values in the community e.g. megapodes, cultural and sacred sites and the forest.	
5	Sustainable development	Enabling the community to access resources for their own use and for sale and as a means to teach young people of the importance of conservation.	

Table 3. Checklist of values/benefits

Not important 0; Important 1; Very important 2; Don't know DK

How important is the protected area for each of the listed values/benefits?	Score (0,1,2, DK)	Comment
1. Biodiversity – the presence of many different kinds of plants, animals and ecosystems	2	Cultural, traditional and commercial values.
2. Presence of rare, threatened, or endangered species (plants and animals)	1	Species of cassowaries disappear and it's important for the species to be available for future generations to see.
3. Ecosystems (e.g. wetlands, grasslands, coral reefs etc) that are rare because they have been cleared or destroyed in other areas	2	Ecosystems are removed elsewhere and it is important to have a variety of ecosystems, as this enables the community to support themselves.
4. Protecting clean, fresh water	2	Water is the source of life.
5. Sustaining important species in big enough numbers that they are able to survive here	2	For example, the Megapodes are used for traditional purposes and also for commercial use (sale to other people).
6. Providing a source of employment for local communities now	0	Currently, there is no employment.
7. Providing resources for local subsistence (food, building materials, medicines etc.)	2	Used for building materials.
8. Providing community development opportunities through sustainable resource use	2	Small scale.
9. Religious or spiritual significance (e.g. tambu places)	2	Sacred sites.
10. Plant species of high social, cultural, or economic importance	2	Red paint tree, plants.
11. Animal species of high social, cultural, or economic importance	2	Megapode for economic and cultural purposes.
12. Attractive scenery	2	Hot springs, waterfall, and also the view of the volcano.
13. Tourism now	2	Tourist coming in for the hot springs and bird watching.
14. Potential value for tourism in the future	2	High potential.
15. Educational and/or scientific value	2	Research is important to pass on information to the next generation to enable them to manage the protected area.
16. Maintaining culture and tradition on customary land and passing this on to future generations	2	Important to pass on to next generation to maintain family relationships.

Part 3: What are the threats to the protected area?

Table 4: Threats to the protected area

- H** High significance threats are seriously degrading values. This means they are badly damaging some value –it might be a kind of animal or plant, or your traditional gardens
- M** Medium threats are having some negative impact – they are damaging values but not so badly
- L** Low threats are present but not seriously damaging values
- 0** N/A where the threat is not present in the protected area or where something is happening but is not threatening the values at all

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Threat type	Score (H,M,L,0)	Notes
1.1 Housing and settlement	M	Settlers from nearby villages now are trying to settle in the buffer zone. This is based on traditional stories that their ancestors used to hunt and gather food in this area.
1.1a Population increase in the protected area community	H	Population increase has led to people wanting to plant more cash crops. There is population pressure.
1.2 Commercial and industrial areas	M	New Britain Palm Oil waste sometimes enters the Deleavo River and kills fish. Examinations have been done only by New Britain Palm Oil.
1.3 Tourism and recreation infrastructure	L	Few tourist activities and the impact is minimal.
2.1 Customary land owner and community gardens and small crops	L	There is some activities at the edge of the WMA, but the impact is low.
2.1a Drug cultivation	L	Some youths are now cultivating drugs in the WMA and this has impacts on our culture.
2.1b Commercial plantations	H	Some are planting cocoa for commercial use and many are wanting to plant more commercial crops.
2.2 Wood and pulp plantations	L	
2.3 Livestock farming and grazing	0	
2.4 Marine and freshwater aquaculture	0	
3.1 Oil and gas drilling	0	
3.2 Mining and quarrying	0	
3.3 Energy generation	L	Geothermal exploration is occurring at Mt Ghabuna located within the WMA. Depending on the results of the exploration it could become a major threat.
4.1 Roads and railroads (include road-killed animals)	L	There is a road that cuts through the WMA and there are plans to expand the existing road and this will impact on the WMA values.
4.2 Utility and service lines (e.g. electricity cables, telephone lines)	0	
4.3 Shipping lanes	M	Accessed daily by small dinghies. The area is a transit point and hence rubbish is left behind by passers-by.
4.4 Flight paths	0	
5.1 Hunting, killing and collecting terrestrial animals (including killing of animals as a result of human/wildlife conflict)	H	As the population grows, more and more hunting is taking place. There is over harvesting of megapode eggs and some are killed.
5.2 Gathering terrestrial plants or plant products (non-timber)	L	
5.3a Logging and wood harvesting for local/customary use	L	Used only when the villagers have a particular need for timber.
5.3b Logging and wood harvesting – commercial logging	L	As the distance to access the logs is too great, the logging activity for commercial purposes is low.
5.4a Fishing, killing and harvesting aquatic resources for local/customary use	L	Not much activity and impact is low.
5.4b Fishing, killing and harvesting aquatic resources for commercial use	M	Neighbouring villages usually come in to get fish for commercial purposes
6.1 Recreational activities and tourism	L	Tourist activities are well managed.
6.2 War, civil unrest and military exercises	0	

Threat type	Score (H,M,L,0)	Notes
6.3 Research, education and other work-related activities in protected areas	L	There have been some researches in the WMA, but it is unclear as to what has been done.
6.4 Activities of protected area managers (e.g. construction or vehicle use)	L	There are no buildings within the WMA. There is a short vehicle track and roundabout to the hot springs. This is used by tourists who want to visit the springs to have a warm bath.
6.5 Deliberate vandalism, destructive activities or threats to protected area staff and visitors	L	Notice boards have been placed to address this issues as there have been cases of people cutting plants for no reasons.
7.1 Fire and fire suppression (including arson)	H	During the recent dry season a large portion of the WMA experienced fire.
7.2 Dams, hydrological modification and water management/use	0	
7.3a Increased fragmentation within protected area	L	Existing road has been re-aligned.
7.3b Isolation from other natural habitat (e.g. deforestation)	L	Daleavu/Kulu River has diverted its course and separated a little part of the WMA to form an island.
7.3c Other 'edge effects' on park values	H	Palm oil seeds have brought in rats and they are now breeding in the area. There is also pollution from fertilisers.
7.3d Loss of keystone species (e.g. top predators, pollinators etc.)	M	Species of cassowaries are decreasing and becoming rare.
8.1 Pest plants	L	Pigra plants and another thorny plant has been noticed to be spreading in the WMA.
8.1a Pest animals	L	Wild dogs kill megapodes.
8.1b Diseases such as fungus or viruses that make native plants or animals sick	0	
8.2 Introduced genetic material (e.g. genetically modified organisms)	0	
9.1 Household sewage and urban waste water	H	People are using the river as the toilet and this has a serious impact on water quality and health.
9.1a Sewage and waste water from protected area facilities	H	In the transit area.
9.2 Industrial, mining and military effluents	H	Pollution coming from the oil palm plantation that has killed fish is the river.
9.3 Agricultural and forestry effluents (e.g. excess fertilizers or pesticides)	M	Some fertilizer is washed off into the river.
9.4 Garbage and solid waste	L	Village is located away from WMA and the impact is low.
9.5 Air-borne pollutants	H	Pollution from geothermal holes, e.g. when people dig megapode eggs and breathe the air at these locations they are affected by the air.
9.6 Excess energy (e.g. heat pollution, lights etc.)	0	
10.1 Volcanoes	H	There is an active volcano in the area (Mt Ghabuna).
10.2 Earthquakes/Tsunamis	M	Earthquakes causing landslides.
10.3 Avalanches/Landslides	L	
10.4 Erosion and siltation/deposition (e.g. shoreline or riverbed changes)	L	Damage to the reef from siltation.
11.1 Habitat shifting and alteration	H	Habitat has been changed, e.g, there used to be fish in a certain area and now they are gone.
11.2 Droughts	L	
11.3 Temperature extremes	H	Constant change in temperatures has changed planting patterns.
11.4 Storms and flooding	H	Change in rainfall causes flash flooding.
11.5 Coral bleaching	H	A lot of the corals have died.
11.6 Intrusion by saltwater into gardens etc.	0	
11.7 Sea level rise	0	
Other (please explain)		

Threat type	Score (H,M,L,0)	Notes
12.1 Loss of cultural links, traditional knowledge and/or management practices	H	Influence from western culture has impacted on the practice of traditional culture.
12.2 Natural deterioration of important cultural site values	L	During the drought fires have caused deterioration.
12.3 Destruction of cultural heritage buildings, gardens, sites etc.	L	Fading observance of values of natural resource within WMA, and lack of cooperation by village people.
Other (please explain)	H	Lack of awareness of the values of the protected area.

Table 5. Worst threats and ways forward

Threat (Most significant first)	Threat number or name (copy from Table 4)	Please explain the nature of the threat and what impact it is causing and indicate how to reduce the impact of the threat.
1 Population	1.1a	We live in a restricted area with a growing population. The land use plan may be useful to reduce the impact and better allocate our resources.
2 Some members of WMA do not understand the benefit of having a protected area in terms of culture	Other	Reduced through education and raising awareness.
3. Over harvesting of megapode eggs	5.1	Harvesting of megapode eggs is allowed on two days each week. However, people still harvest on days where harvesting is not permitted. Also dogs have been killing the birds. We need to provide funds to monitor the WMA. We need the PA policy to come into effect to allow the community to effectively manage the WMA.

Table 6. Management effectiveness scores, comments, next steps

Issue	Score (0,1,2,3 NA)	Comment	Next steps
1a. Legal status	3	Legally gazetted WMA.	
1b. Legal status			
2a. Protected area regulations	1	There are some regulations.	
2b. Protected area regulations			
3. Law enforcement	0	Staff have no way of enforcing the rules in the WMA.	We need to ensure that the PA policy comes into effect. CEPA should assist by supporting rangers in the WMA.
4. Protected area objectives	1	No management plan and any objectives are unclear.	To develop a management plan.
5. Protected area design	1	Not all important areas are included in the WMA.	We should extend the WMA to cover a small area where the megapodes nests. This should be done in consultation with the landowner clan.
6. Protected area boundaries	2	The boundary is not surveyed, but is based on natural traditional land marks.	We would like to complete a survey of the park boundaries and confirm this with the community.
7. Management plan	1	The plan is being prepared.	Finalise the plan through consultation with the community and landowners.
7a. Planning process	1		The development of the Management plan should involve New Britain Palm Oil Ltd.

Issue	Score (0,1,2,3 NA)	Comment	Next steps
7b. Planning process	0		Finalise the plan and develop a review process.
7c. Planning process	1		More monitoring and research can only help.
8. Regular work plan	0	No work plan exists.	We need to finalise the Management Plan and then develop a work plan.
9. Resource inventory	2		More scientific information is needed.
10. Protection systems	0	No protection systems are currently in place.	We need to have legal regulations and the landowners need to take more ownership of the issues.
11. Research and monitoring	0	No survey or inventory.	The Management Plan needs to address research and monitoring. Children should be involved in the monitoring plan and noting the plants and animals in the WMA. This is also part of imparting traditional skills and values to the next generation.
12. Resource management	0		Finalise the management plan.
13a. Staff numbers	0	No paid workers.	
13b. Other people working on the protected area	2		We need to have funding to pay rangers and conduct more awareness training.
14. Training and skills	1	NGOs are currently doing training.	More training programmes are needed, with assistance from local community business organisations.
15. Current budget	0	No budget.	Provincial and local level governments should be involved and provide funding (e.g. Provincial strategic improvement funds, and Local level government improvement funds).
16. Security of budget	N/A		
17. Management of budget	N/A	No budget	
18. Equipment	0		
19. Maintenance of equipment	N/A		
20. Education and awareness	0	No plans yet.	Approach schools and youth groups and churches to develop and implement awareness/education on the importance of the WMA.
21. Planning for land use or marine activities	0	Adjacent planning has not taken account of the needs of the area.	More communications is needed between stakeholders.
22. State and commercial neighbours	1	Little contact and little cooperation with commercial/government neighbours.	More consultation between stakeholders is needed. The WMA Committee must be able to present their Management Plan to these organisations.
23. Indigenous people/ Customary landowners	2	Most people live within the protected area.	Land demarcation is needed for each land owner and this will improve ownership and management.
24a. Impact on communities	0	Misunderstandings have occurred as a result of lack of information and also this is partly the result of low literacy rates among the landowners.	
24b. Impact on communities	1	Some activities are taking place with the assistance of NGOs.	

Issue	Score (0,1,2,3 NA)	Comment	Next steps
24c. Impact on communities	1	There are some people who support the WMA and others who do not support it because of misunderstandings about the value of the WMA.	Need to increase information and education and awareness about the WMA.
25. Economic benefit	2	There is some tourism with regards to bird watching and also visiting the hot springs (visitors pay a small fee).	We need to provide a ranger and also have local tour guides and improve our tourist facilities.
26. Monitoring and evaluation	0	Yet to finalise the Management Plan.	Finalise the Management Plan.
27. Visitor facilities	0	There are no facilities for visitors to the WMA.	We need to erect resting spots and other facilities for possible visitors.
28. Commercial tourism operators	1		The Management Plan should consider how to manage tourism, including commercial tourism and benefit sharing arrangements.
29. Fees	1	Some fee are collected.	Fees should come to the Management Committee to manage and disburse the funds to the clans. There needs to be increased awareness raising in relation to the work of the Committee.
30. Condition of values	2	Cultural value is being lost slowly and also through natural disasters.	
30a. Condition of values	0	There has been no research or monitoring to assess the values.	
30b. Condition of values	0	There are no specific plans to address the threats.	Threats to the WMA will be addressed in the Management Plan.
30c. Condition of values	0		We need the Management Plan completed, employment of rangers and guides and awareness raising programs.

Part 5: Condition and trends of protected area values

Table 7. Values, condition and trend

Key value (from Table 2)	Condition Score (VG, G, F, P, DK)	Trend Score, (I, S, D, DK)	Information source and justification for Assessment and HOW the condition can be IMPROVED
To protect cultural values e.g. traditional sacred sites	G	S	It is important that culture is maintained and practiced.
The bush	G	S	They are still able to collect material for food, housing, but there needs to be increased awareness raising about the environment.
Economic value of megapodes and megapode eggs	G	I	Prices for megapodes have increased and people value the megapodes and want to look after them.
Ecotourism	G	S	We don't have tourism infrastructure and this needs to be improved.

Sustainable development	G	S	Using resources wisely and teaching the young ones about the importance of conservation in general.
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Table 8. Recommendations and ways forward

1.	2.	3.
Awareness and education	Training	Funding