

## Name of Protected Area: Nuserang 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 <i>Person 1: Name, Organisation, Address, Email, Phone</i>	Ann Peterson, SPREP/Protected Area Solutions, 283 Madill Road, Tandur, Q4570, Australia, a.peterson@uq.edu.au, 0414300955
<i>Person 2: Name, Organisation, Address, Email, Phone</i>	James Sabi, CEPA, james.sabi.roaming@gmail.com, 71823100
Today's Date	30/08/2016
Name (or names) of protected area	Nuserang Wildlife Management Area
Size of protected area (ha)	22.23
PNG Code or number	
World Database of Protected Areas site code (these codes can be found on <a href="http://www.unep-wcmc.org/wdpa/">www.unep-wcmc.org/wdpa/</a> )	377715
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	NA
International protected area? e.g. World Heritage or Ramsar?	NA
Country	Papua New Guinea
Province/s	Morobe
District/s	Finschhafen
Local level governments	Kotte
Ward/s	7
Nearest big town	Dagaidu
Location of protected area (brief description)	It is located on the Huon Peninsular, north east of Lae. Access to Lae is by boat (4 hours) or ship (7 hours) from Dagaidu or plane. The WMA is near Kottee and Sappelberg Stations. It comprises a mountain which rises to over 1400m. It is forested, and while it does not have any major rivers, it provides an important water catchment function, providing benefit to communities lower in the catchment.
Map references	
When was the protected area gazetted or formally established?	9/10/1986
Reference for gazettal or Memorandum of Understanding (MoU)	
Who owns the protected area? please enter Government Private Community/ customary	Customary land: Tubang Clan

landowners, private, Other (name) and include <b>Clan name(s)</b>	
Number of households living in the protected area	3 villages; Maruruo 60; Masangko 80; Qoranko 70
Population size within the protected area	>2000
Who manages the protected area? (e.g. please enter government, customary landowners [add clan names] management committee [how many and what gender])	Management Committee was established with 9 members, but is not operational at the moment.
Total number of staff (this means anyone working on the protected area in <b>paid jobs</b> – whether NGOs, community, rangers or customary landowners	0
<i>Temporary paid workers</i>	0
<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	A white man (a missionary) came to the area, some researchers (e.g. botanists interested in palms) and other visitors to and they told us of the importance of the area. It has many forests and animals and we decided to protect the area for its birds, animals and the forest itself.
What are the main values for which the area is designated (Fill this out after data sheet 2)	
List the primary protected area management objectives (add lines if needed after the most important objectives): <i>Management objective 1</i>	To protect the forest and wildlife.
<i>Management objective 2</i>	
<i>Management objective 3</i>	
Number of people involved in answering the assessment questions;	4
Name/organisation/contact details of people participating the assessment ( <i>Please do not insert return/enter or dot points</i> )	<i>Rube Zurenare</i> , Kotte Local Level Government, PO Box 120, Finschhafen, 72013928; <i>James Aicine</i> (as above); <i>Tom Rabison</i> (as above); <i>Ericnic Yowa</i> (as above). Email to Chris Tumi, tumichris07@gmail.com, 73056009.
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	Customary landowners
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 WMA is located around Mt Nuserang, which rises to over 1400m. There are three main villages located outside the WMA (Marurao, Masangko and Qoranko) and no people live in the WMA. People who came to visit the WMA in the early days found important animals and we realized it was important to protect our forest and animals. We do not hunt animals in the WMA, but only outside. We have many animals including kapul, wild boar, cassowary, flying foxes, birds, lizards etc and many trees and smaller plants. The area has cool temperatures and clean fresh air and is important for providing fresh, clear water to people who live below us.

**Table 2. Key values of the protected area**

No.	Key values	Brief description	Note if endangered species or ecosystem (IUCN)
1	Caves	Limestone caves occur throughout the WMA and this is important for animals such as flying fox, kapul and some plants.	
2	Forest	Important for timber, medicinal plants and habitat for plants and animals – “when we have bush we have animals and medicine”. Forest brings unpolluted air. The missionaries (Lutheran Church) came here as a place of rest. There are special trees. People use timber for making houses.	
3	Animals	The first visitors believed that there were special birds that lived in the area and that it was important to protect Nuserang so that the birds might come back to the area. There are wildfowl, cassowary (2 types), kapul (brown, black and white), snake, lizards (to make kundu drums), wallaby (brown), flying foxes (2 types – big and small) in caves, glider, and cuscus (brown with short tail). There is no hunting in the WMA as we want the environment to come back to its previous state. We hunt some species outside the WMA, including kapul, bandicoot, cuscus, wildfowl and wild pig. Numbers of many species are declining.	

**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	Vegetation is lower montane with widespread plant species e.g. Cryptocarya, Castanopsis accuminitissima, Litsea, Ilex, Galbulimima, Elococarpus, Garcinia. There are climbers and ferns and many animal species (cassowary, cuscus, snakes, marsupials, flying foxes etc).
2. Presence of rare, threatened, or endangered species (plants and animals)	2	There has been no recent research in the WMA, but it is thought that the area provides important habit for rare and threatened species. Customary landowners believe that the species numbers are declining due to increased hunting pressure.
3. Ecosystems (e.g. wetlands, grasslands, coral reefs etc) that are rare because they have been cleared or destroyed in other areas	2	Moist tropical forest ecosystem and caves ecosystems are present in the WMA.
4. Protecting clean, fresh water	2	The mountains are an important water catchment that provide clean water to downstream areas. The water is very clean.
5. Sustaining important species in big enough numbers that they are able to survive here	1	The park is small in area and is unlikely to be able to sustain large populations of species, but it is important for many species within the wider landscape, which is largely undeveloped, but subject to increasing settlement.

6. Providing a source of employment for local communities now	0	
7. Providing resources for local subsistence (food, building materials, medicines etc.)	2	It provides many resources to the community e.g. timber, medicinal plants, animals for food and protein.
8. Providing community development opportunities through sustainable resource use	1	Wood (Warafoc) is used for carvings, axe handles and knives because it is very strong. Posts for making houses are obtained from the forest.
9. Religious or spiritual significance (e.g. tambu places)	2	Ples tambu are found in the caves. There is a special spirit – if you go there you will die (we don't go there).
10. Plant species of high social, cultural, or economic importance	2	Social and cultural value mainly (e.g. use for medicines and making bilums and grass skirts).
11. Animal species of high social, cultural, or economic importance	2	Bird of paradise has cultural importance (2 kinds - feathers are used for sing sings), pandanus for making skirts, other plants for making bilums, and lizard skin for making the kundu drum.
12. Attractive scenery	2	The mountains provide good places for scenic lookouts and hiking, and they are good for bird watching.
13. Tourism now	1	There is little tourism now, but it is important to provide this in the future to earn income to promote community development.
14. Potential value for tourism in the future	2	Trekking, walking and bird watching are the main activities, along with experiencing a traditional culture (the people, sing sings, and local products).
15. Educational and/or scientific value	2	Not currently used for educational purposes, but it has importance for research.
16. Maintaining culture and tradition on customary land and passing this on to future generations	2	Important to pass on our customs to our children.

### 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

Threat type	Score (H,M,L,0)	Notes
1.1 Housing and settlement	M	There are settlements to the north of the WMA and people are illegally entering the WMA.
1.1a Population increase in the protected area community	H	High increase in population around the area and this places pressure on the WMA.
1.2 Commercial and industrial areas	0	
1.3 Tourism and recreation infrastructure	0	
2.1 Customary land owner and community gardens and small crops	0	Gardens are found mainly outside the WMA.
2.1a Drug cultivation	0	There is a little drug cultivation outside the WMA.
2.1b Commercial plantations	0	Coffee plantations are a long way to the south east and do not cause any threats.
2.2 Wood and pulp plantations	0	
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	0	
4.1 Roads and railroads (include road-killed animals)	0	

Threat type	Score (H,M,L,0)	Notes
4.2 Utility and service lines (e.g. electricity cables, telephone lines)	0	
4.3 Shipping lanes	0	
4.4 Flight paths	0	
5.1 Hunting, killing and collecting terrestrial animals (including killing of animals as a result of human/wildlife conflict)	M	Because there is no patrolling, people enter the WMA and hunt a range of wildlife. The younger generation does not know the boundary (identified in 1986) and it is important to mark the boundary on the ground and this may make a difference.
5.2 Gathering terrestrial plants or plant products (non-timber)	L	Take food to eat. There is little or no impact on forest trees.
5.3a Logging and wood harvesting for local/customary use	L	Take of timber for carvings, and housing material.
5.3b Logging and wood harvesting – commercial logging	0	
5.4a Fishing, killing and harvesting aquatic resources for local/customary use	0	
5.4b Fishing, killing and harvesting aquatic resources for commercial use	0	
6.1 Recreational activities and tourism	0	
6.2 War, civil unrest and military exercises	0	
6.3 Research, education and other work-related activities in protected areas	0	
6.4 Activities of protected area managers (e.g. construction or vehicle use)	0	
6.5 Deliberate vandalism, destructive activities or threats to protected area staff and visitors	0	
7.1 Fire and fire suppression (including arson)	0	
7.2 Dams, hydrological modification and water management/use	0	
7.3a Increased fragmentation within protected area	0	
7.3b Isolation from other natural habitat (e.g. deforestation)	0	
7.3c Other 'edge effects' on park values	0	
7.3d Loss of keystone species (e.g. top predators, pollinators etc.)	M	Muruk (cassowary) have largely disappeared from within the WMA, but are found outside.
8.1 Pest plants	0	
8.1a Pest animals	L	Wild pigs damage the forest and the gardens. There are wild cats, but they are not seen as a threat.
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	0	
9.1a Sewage and waste water from protected area facilities	0	
9.2 Industrial, mining and military effluents	0	

Threat type	Score (H,M,L,O)	Notes
9.3 Agricultural and forestry effluents (e.g. excess fertilizers or pesticides)	0	
9.4 Garbage and solid waste	0	
9.5 Air-borne pollutants	0	
9.6 Excess energy (e.g. heat pollution, lights etc.)	0	
10.1 Volcanoes	0	
10.2 Earthquakes/Tsunamis	0	
10.3 Avalanches/Landslides	L	
10.4 Erosion and siltation/ deposition (e.g. shoreline or riverbed changes)	L	In the rainy period there is some erosion and sediment.
11.1 Habitat shifting and alteration	M	The structure of the forest is changing. Some plants are now found in new areas. Coconuts used to be lowland plants and now they are found in our area.
11.2 Droughts	M	The dry season is longer and this affects our gardens (e.g. corn, taro)
11.3 Temperature extremes	H	Temperatures are hotter, especially in the dry season when there may be droughts.
11.4 Storms and flooding	M	Fewer storms, but more intense.
11.5 Coral bleaching	0	
11.6 Intrusion by saltwater into gardens etc.	0	
11.7 Sea level rise	0	
Other (please explain)		
12.1 Loss of cultural links, traditional knowledge and/or management practices	L	Some cultural knowledge is not maintained and we don't pass on our culture to the younger generation (life is too busy and changing lifestyle). Loss of cultural dressing and sing sings. Hunting practices are passed on. Language is being passed on. Loss of traditional bilums and use of bamboo combs, wood plates – all this comes from the stores. Have been growing rice since 1936 (seeds from Germany). Spirit places are not being maintained as special places. This is due to the influence of the church.
12.2 Natural deterioration of important cultural site values	0	
12.3 Destruction of cultural heritage buildings, gardens, sites etc.	0	
Other (please explain)		Lack of management

**Table 5. Worst threats and ways forward**

Threat No.	Threat (Most significant first)	Threat number or name (copy no. from Table 4)	Nature of the threat, impact and how to reduce the impact.
1	Lack of management	Other	There is no Management Committee, or Management Plan and there is no funding to implement management actions or to employ a ranger or person to work in the WMA.
2	Increasing population	1.1a	Places pressure on the resources of the WMA. We are starting to educate the children about family planning. We need to bring back the use of boy house to teach the young people to reduce their family size.
3	Climate change	11.3,11.1,11.2,11.4	Impacts on habitat and has caused a change in forest structure and longer droughts also impact on gardening.

**Table 6. Management effectiveness scores, comments, next steps**

Issue	Score (0,1,2,3, NA)	Comment	Next steps
1a. Legal status	3	Legally gazetted.	
1b. Legal status			
2a. Protected area regulations	2	Regulations were identified at gazettal, but there has been a lack of effective implementation. The regulations included: use of bows and arrows, shot guns, catapults (slings) and metal straps is strictly prohibited; dogs not allowed in the management area – kept >500m from the boundary; gardening strictly prohibited; fires are not to be lit in and around the management area; eggs of cassowaries, wildfowl and other birds are not to be collected or destroyed; all animals are to be protected and not to be taken or killed; landowners & villagers must be granted permission by their respective wildlife committees before entry into the management area – this applies to harvesting of any edible plant sonly; if found breaking rules – take to village court by the committee and if guilty liable for fine of K100 to the village court and if in default 2 months imprisonment; gate fee for tourists (K2) and nationals (K1).	Need to establish the Management Committee and develop a Plan. Assistance is needed to do this, either from government or NGOs.
2b. Protected area regulations			
3. Law enforcement	0	No enforcement of the rules.	We need to Plan to activate the enforcement processes and then the Village courts can process offenders.
4. Protected area objectives	2	There is a vision for the WMA, but there is no capacity to achieve the vision.	We need the appointment of rangers and effective training to implement management actions.
5. Protected area design	3	The WMA includes a mountain with a flattish top. The boundary follows the clan boundaries.	The provincial forest plan included the wider area around the WMA as important for conservation rather than logging. It is important to work with adjacent villagers to see if they are interested in forming a WMA.
6. Protected area boundaries	2		We need to mark the boundary and this may reduce the illegal entry.
7. Management plan	0		
7a. Planning process	0		
7b. Planning process	0		
7c. Planning process	0		
8. Regular work plan	0		
9. Resource inventory	1	There is traditional knowledge, but little scientific information.	We would like a formal inventory of plants and animals to help us with planning and management. Training is needed to enable us to keep the inventory up to date.

Issue	Score (0,1,2,3, NA)	Comment	Next steps
10. Protection systems	1		
11. Research and monitoring	0		
12. Resource management	0		
13a. Staff numbers	0		
13b. Other people working on the protected area	0	People are working to protect their cultural traditions.	
14. Training and skills	0		Training is needed in: management of the WMA, ranger training, awareness and education about the values of the WMA, land use planning, para-legal training to understand relevant rules.
15. Current budget	0		
16. Security of budget	0		
17. Management of budget	NA		
18. Equipment	0		
19. Maintenance of equipment	NA		
20. Education and awareness	0		
21. Planning for land use or marine activities	2	The adjacent land is identified in the Forestry Plan as important for conservation.	
22. State and commercial neighbours	0		
23. Indigenous people/ Customary landowners	2	Customary landowners can make decisions on their own land and they can discuss issues with other landowners. There is cooperation between the two main villages and the landowners can have input into overall decisions concerning the WMA.	
24a. Impact on communities	1		
24b. Impact on communities	0		
24c. Impact on communities	1		
25. Economic benefit	0		We need to develop the WMA to attract tourists. We will need to provide tourist accommodation, walking tracks, water tanks and to link with Provincial and Local Level Government to provide advice. A saw to help cutting timber for use in the WMA. Fish ponds would be beneficial and coffee production.
26. Monitoring and evaluation	0		
27. Visitor facilities	0		
28. Commercial tourism operators	0		
29. Fees	0		
30. Condition of values	2		
30a. Condition of values	0		

Issue	Score (0,1,2,3, NA)	Comment	Next steps
30b. Condition of values	0		
3c. Condition of values	0		

## 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 <b>HOW the condition can be IMPROVED</b>
Caves	VG	S	There has been no change in the physical structure or species composition, but this is not based on any formal research.
Forest	VG	S	The forest is very old and the larger trees are trying out on the top, but this is a natural process of succession.
Animals	DK	D	We are not sure which animals are present and we don't know the numbers of animals, but we think that the numbers are declining due to hunting pressure.

**Table 8. Recommendations and ways forward**

1.	2.	3.
Reconvening the Management Committee, and working collaboratively to develop a new Management Plan and strategies to implement the plan (e.g. based on income generating activities or other funding support).	Assistance with identifying the boundary and clearly marking it on the ground. Undertaking an inventory of the resources of the WMA.	Training, education and awareness raising, including training of the new Management Committee and rangers, administration, finance, para-legal issues, and IT.

**Table 9. Strengths and challenges (facilitator/recorder synthesis)**

	Strengths	Challenges
1	Customary landowners support the WMA and are interested in improving management of the WMA.	Lack of management since the 1980s and lack of funding to support the WMA.
2	The area has a diverse range of fauna and flora, which is in relatively good condition.	Improving communication with all levels of government to assist with income generating activities and improving management outcomes.
3	Surrounding areas, in conjunction with the WMA, have been identified in the National Forest Plan as having important conservation values.	
4	No landowners live within the WMA and thus impacts are reduced due to gardening and hunting.	