

Name of Protected Area: Zo-oimaga 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>	Gregory 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>	Ann Peterson, SPREP/Protected Area Solutions, 283 Madill Road, Tandur, Q4570, Australia, a.peterson@uq.edu.au, 0414300955
Today's Date	06/03/2017
Name (or names) of protected area	Zo-oimaga Wildlife Management Area
Size of protected area (ha)	1,510
PNG Code or number	
World Database of Protected Areas site code (these codes can be found on www.unep-wcmc.org/wdpa/)	9717
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	Central
District/s	Rigo
Local level governments	Rigo Central
Ward/s	4 wards (2 wards are fully within the WMA)
Nearest big town	Port Moresby
Location of protected area (brief description)	The WMA is located to the south east of Port Moresby. It is only about 1-2 hours' drive from Port Moresby and the road is relatively good. The WMA contains savanna and woodland ecosystems. The Hunters River passes through the WMA (on the southern boundary). The land rises to about 400m in the form of a range. The village of Gea is on the eastern WMA boundary.
Map references	
When was the protected area gazetted or formally established?	15/03/1981
Reference for gazettal or Memorandum of Understanding (MoU)	
Who owns the protected area? please enter Government Private Community/ customary	Customary landowners: Gaza Clan

landowners, private, Other (name) and include Clan name(s)	
Number of households living in the protected area	0
Population size within the protected area	0
Who manages the protected area? (e.g. please enter government, customary landowners [add clan names] management committee [how many and what gender])	No management committee; customary landowners move throughout the area to ensure that there are no major problems in the WMA.
Total number of staff (this means anyone working on the protected area in paid jobs – 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 protected area establishment	The DEC came to the village and suggested that the people protect the wildlife of the area. The people agreed to this and the WMA was declared. There has been no money to fund the WMA.
What are the main values for which the area is designated (Fill this out after data sheet 2)	Animal, plants, cultural places and water.
List the primary protected area management objectives (add lines if needed after the most important objectives): <i>Management objective 1</i>	To protect the wildlife.
<i>Management objective 2</i>	To retain our cultural traditions.
<i>Management objective 3</i>	
Number of people involved in answering the assessment questions	3
Name/organisation/contact details of people participating in the assessment	<i>Gimi Aiwa</i> , Zo-aminga WMA, PO Box 41, District, 73414980, <i>Ama Ovara</i> , Ward Council, PO Box 41, Kwikila Region, Central Province, 72162036; <i>Murray Konido</i> , District Officer, District Office, PO Box 41, Kwikila, Rigo District, 73640061.
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?

In our clan there are about 200-300 people. We have a lot of land and decided to put the WMA in its current location because it is far from our villages and we would hunt and garden in other areas. The WMA has many different animals and plants and protects the headwater streams for our drinking water. Now because of population increase people do go into the WMA to hunt and to garden. There are two villages in the area surrounding the WMA. There are impacts from the villages that are found in the south west (they are from a different clan).

Table 2. Key values of the protected area

No.	Key values	Brief description	Note if endangered species or ecosystem (IUCN)
1	Animals	Birds of paradise, wallabies, cuscus, parrots (green and red), white cockatoo. The animals are used for traditional ceremonies, but the people want to look after the animals. We hunt wallaby, pigs, cuscus, bird of paradise, prawns and small river fish.	
2	Plants	There are big trees (e.g. kwila); and some grassland. Some trees are used to build our houses, and other plants are used for medicinal purposes and for food. There are some gardens on the northern side of the WMA (e.g. they grow banana, yams, coconut and breadfruit). The gardens are on the river and not in the middle of the WMA.	
3	Cultural places	There were tambu areas that may have been created by the ancestors (e.g. a woman went to the river and she was peeling some yams and dropping the waste into the waterhole, she dropped the yam into the water, went in to retrieve the yam, but was drowned – now this is a sacred site and people do not go there). There is also a sacred rock involved with a man sleeping on a sleeping mat on the rock and it is a tambu place.	
4	Water	The water in the Hunters River is used for drinking (it is obtained by digging in the sand) and washing. In times of flood the water is brown. There are many villages upstream and they pollute the water. The small creeks have good water and this is used for drinking.	

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	
2. Presence of rare, threatened, or endangered species (plants and animals)	2	
3. Ecosystems (e.g. wetlands, grasslands, coral reefs etc) that are rare because they have been cleared or destroyed in other areas	2	
4. Protecting clean, fresh water	2	
5. Sustaining important species in big enough numbers that they are able to survive here	2	
6. Providing a source of employment for local communities now	0	
7. Providing resources for local subsistence (food, building materials, medicines etc.)	2	
8. Providing community development opportunities through sustainable resource use	0	
9. Religious or spiritual significance (e.g. tambu places)	2	

10. Plant species of high social, cultural, or economic importance	2	
11. Animal species of high social, cultural, or economic importance	2	
12. Attractive scenery	2	
13. Tourism now	0	
14. Potential value for tourism in the future	1	
15. Educational and/or scientific value	2	
16. Maintaining culture and tradition on customary land and passing this on to future generations	2	

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	0	
1.1a Population increase in the protected area community	M	There is some small increase in population in the surrounding villages and this may result in increased hunting pressure on the WMA.
1.2 Commercial and industrial areas	0	
1.3 Tourism and recreation infrastructure	0	Tourism is an opportunity – “we hope we have this threat in the future”.
2.1 Customary land owner and community gardens and small crops	L	There are family gardens in the WMA and this is not a problem. This shows others that this is my land and that they should not come here. We use shifting cultivation when gardening.
2.1a Drug cultivation	0	
2.1b Commercial plantations	0	
2.2 Wood and pulp plantations	0	
2.3 Livestock farming and grazing	0	
2.4 Marine and freshwater aquaculture	L	There are some fish ponds owned by one family on the border of the WMA. It contains tilapia, but at the moment they are not in the river.
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	
4.2 Utility and service lines (e.g. electricity cables, telephone lines)	0	
4.3 Shipping lanes	0	
4.4 Flight paths	L	The WMA is on the flight line into Port Moresby. We can hear the planes. The smaller ones at lower altitude can be a problem.
5.1 Hunting, killing and collecting terrestrial animals (including killing of animals as a result of human/wildlife conflict)	M	Wallaby numbers may be declining from over-hunting. The bird numbers are stable and increasing. Hunting is for food and for income. With increasing population pressure this will place more pressure on the wildlife.
5.2 Gathering terrestrial plants or plant products (non-timber)	L	Some food plants are gathered and with population increase this may be a problem in the future.
5.3a Logging and wood harvesting for local/customary use	L	
5.3b Logging and wood harvesting – commercial logging	0	

Threat type	Score (H,M,L,O)	Notes
5.4a Fishing, killing and harvesting aquatic resources for local/customary use	L	People fish for small native fish and prawns. The numbers are declining due to the pressure of over-harvesting by the customary landowners.
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)	H	There is a problem with fire. Fire is used to hunt wallaby, but sometimes the fire escapes and enters the WMA. This threatens the wildlife and can change the forest into grassland. Fires are more common in the dry season from July.
7.2 Dams, hydrological modification and water management/use	0	
7.3a Increased fragmentation within protected area	L	There are some small gardens moving into the WMA and this is starting to fragment the forest in the WMA.
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.)	H	Cassowaries have disappeared from the area – they were seen in our grandfathers' time.
8.1 Pest plants	L	In the garden area there are some weeds and these can also spread as a result of fire. There are some vines and grasses. Activities along the roadside e.g. machines can bring seeds and cause a problem in the WMA.
8.1a Pest animals	L	Tilapia are in the fish ponds (but not yet in the rivers); cane toads; wild dogs; wild pigs.
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	Pit toilets are used in the area.
9.1a Sewage and waste water from protected area facilities	0	
9.2 Industrial, mining and military effluents	0	
9.3 Agricultural and forestry effluents (e.g. excess fertilizers or pesticides)	0	
9.4 Garbage and solid waste	L	The Hunters River passes through and there is household rubbish that ends up in the river. Villagers upstream put garbage into the waters that enter the WMA.
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	

Threat type	Score (H,M,L,O)	Notes
10.3 Avalanches/Landslides	L	Some small landslides.
10.4 Erosion and siltation/ deposition (e.g. shoreline or riverbed changes)	L	Erosion of the river mainly after big rains.
11.1 Habitat shifting and alteration	0	
11.2 Droughts	M	Droughts are now more severe than before.
11.3 Temperature extremes	L	Temperatures are hotter during the day; the pattern of temperatures has changed. This affects the amount of available water, gardening, trees, plants and animals.
11.4 Storms and flooding	M	The WMA is on a higher area and it is not so affected by flooding. There is more heavy rain now.
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	M	We are losing our culture and traditional knowledge and practices. We are trying to reverse this, but people seem not to be dancing and practicing culture. Children are not being taught by their parents. The children go to school and read about their culture in their books. In schools they do a little bit of practicing culture. Other cultural practices e.g. about sharing and giving, bride price, how to garden (what to plant and how) are still strong. Tok Place (clan language) is strong.
12.2 Natural deterioration of important cultural site values	0	
12.3 Destruction of cultural heritage buildings, gardens, sites by people	0	
Other overall (please explain)		Lack of agreement on the presence of the WMA.

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 agreement on the presence of the WMA	Other	The old people who set up the WMA are now gone. We need to talk to all the people again about whether or not to keep the WMA. The boundary could either increase, decrease or stay the same. There may be some disputes about the precise location of the WMA boundary.
2	Fire	7.1	We need to inform surrounding communities about the boundaries of the WMA to reduce the impact of fire. Fire is associated with drought and people who light fires make this worse – we need to raise awareness. The District level of government is trying to raise awareness.
3	Hunting	5.1	Loss of species as a result of over-hunting. Some species are declining in number.

Part 4: What is the management like in the protected area?

Table 6. Management effectiveness scores, comments, next steps

Issue	Score (0,1,2,3, NA)	Comment	Next steps
1a. Legal status	3	The WMA is legally protected, although this was created by people a long time ago and some may not support it now.	Consult with the community to raise awareness of the values of the WMA and to assess whether it will be included in the new protected areas under the new legislation.
1b. Legal status			
2a. Protected area regulations	1	There may have been formal rules, but these are not known. There is understanding among the people about how to use the WMA. There were rules about where to hunt, collect and where dogs could go. These rules are not followed in full.	
2b. Protected area regulations			
3. Law enforcement	0	There are some rules, but there is no enforcement.	
4. Protected area objectives	0	There are no agreed objectives.	
5. Protected area design	0	There is nothing happening in the WMA and we receive no benefits or funds to manage the area. However, the size of the WMA is OK for us.	If the WMA was smaller it would be easier to manage. We would be able to manage the hunting and other resource extraction better.
6. Protected area boundaries	3	The boundary of the WMA is known and generally respected by the community and outsiders. Sometimes people come and hunt the wallabies without our permission.	
7. Management plan	0	There is no management plan.	We need to decide on whether to keep the WMA and then to develop a Management Plan to help us to improve our management.
7a. Planning process	0		
7b. Planning process	0		
7c. Planning process	0		
8. Regular work plan	0		
9. Resource inventory	0	There is little information about wildlife habitat and species. This knowledge may have existed in the past.	
10. Protection systems	2	There are tambu places and the people within and around the WMA know the rules and don't enter.	
11. Research and monitoring	0	There is no research and monitoring.	
12. Resource management	0		
13a. Staff numbers	0		
13b. Other people working on the protected area	2	Customary landowners move around the WMA and make sure that the rules are in place.	

Issue	Score (0,1,2,3, NA)	Comment	Next steps
14. Training and skills	0		We need to understand what is in the WMA and how to manage the WMA to ensure its protection for future generations.
15. Current budget	0	District Service Improvement Program funds are not available for environmental purposes. They are spent on other priorities. The Ward Development funds are also not spent on the WMA.	
16. Security of budget	0		
17. Management of budget	NA		
18. Equipment	0	We only have knives and spears.	
19. Maintenance of equipment	NA		
20. Education and awareness	0	There is no education program and limited awareness of the values within the WMA. There is no specific inclusion of information about the WMA within the school education program.	Education is needed to better understand the values of the WMA. This should be included in the school education program. Perhaps the elders in the community could be more engaged in the education program of the children.
21. Planning for land use or marine activities	2	The adjacent land uses are primarily customary landowners living traditional lives.	
22. State and commercial neighbours	0	There are no adjacent commercial neighbours and we have had no contact with government about the WMA.	
23. Indigenous people/ Customary landowners	1	There is some joint decision making.	
24a. Impact on communities	1		
24b. Impact on communities	0		
24c. Impact on communities	0	We are unsure of who supports the WMA.	
25. Economic benefit	2	There is some benefit from the sale of wildlife (e.g. wallabies – the black one in the forest and the brown one in the grassland; cuscus and pigs).	
26. Monitoring and evaluation	0		
27. Visitor facilities	0	There are no visitors and hence no visitor facilities.	Some tourism in the future would bring benefits to the community.
28. Commercial tourism operators	0	There is no contact with commercial tourist operators.	Tourism may be an option to provide some income to the people. There could be cultural dances and selling of crafts and artefacts; and sale of food.
29. Fees	NA		
30. Condition of values	2		
30a. Condition of values	1	We are all part of the WMA and we have knowledge of the area and the surroundings and we walk through the WMA.	
30b. Condition of values	0		
30c. 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 HOW the condition can be IMPROVED
Animals	G	S	Most animals are in a good state; birds are getting better as there is no shooting or taking of birds and other birds are coming from outside into our WMA. Wallabies, cuscus and pigs are hunted and the pressure is increasing. We need to protect the boundaries and make sure outsiders don't come in and hunt.
Plants	VG	I	There is no logging in the area and there is no destruction. Because the village is a long way away, we don't use the resources much.
Cultural places	G	S	Place Tok is strong. We don't practice our dance and songs so much anymore (but the ceremonies cause the loss of birds for their feathers). The tambu places are still there and they are respected.
Water	G	D	The drought caused a loss of water in our area, but at the moment it is good. On the bigger rivers there is impact from logging.

Table 8. Recommendations and ways forward

1.	2.	3.
We need to consult with the customary landowners and decide on the future of the WMA. It was established such a long time ago and people do not understand the reason why this was done and why it is important to protect. We need to re-establish the WMA Committee and progress the future of the WMA. This is the first time we have talked about the WMA in 36 years.	CEPA should contact the community and provide information on the benefits of the WMA and assist with the forward planning for the WMA.	

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

	Strengths	Challenges
1	The WMA is in good condition in relation to animals and plants.	Retaining the interest of the customary landowners when there has been no engagement with CEPA for 36 years.
2	The WMA is close to Port Moresby and could have potential eco-tourism opportunities.	Establishing a process to work with the customary landowners to decide on the future of the WMA.
3	There are few detrimental land uses on the boundary of the WMA.	Retaining the biodiversity values in the face of population increase in the surrounding areas (and closeness to Port Moresby).
4	There is attractive scenery in the area.	Achieving outcomes in the absence of a formal Management Plan or Management Committee.
5	The headwater streams generally remain suitable as a source of drinking water.	Overcoming the lack of investment by the government (no budget, law enforcement, training, resource inventory, visitor facilities, research and monitoring).