

Name of Protected Area: Tavolo 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	3/06/2016
Name (or names) of protected area	Tavolo Wildlife Management Area (spelled Tavalo by CEPA)
Size of protected area (ha)	2400
PNG Code or number	100
World Database of Protected Areas site code (these codes can be found on www.unep-wcmc.org/wdpa/)	377716
Protected Area Designation What level or kind of protected area is it? (National, Provincial, Regional or Community protected area type e.g. Locally Managed Marine Area or Wildlife Management Area)	Wildlife Management Area
IUCN Category	
International protected area? e.g. World Heritage or Ramsar?	
Country	Papua New Guinea
Province/s	East New Britain
District/s	Pomio
Local level governments	Melkoi
Ward/s	Tavolo
Nearest big town	Kokopo
Location of protected area (brief description)	Consists of marine and terrestrial areas in the New Britain Lowlands biogeographic region. The terrestrial component is relatively low elevation (<200m), mostly densely forested, with several small streams and two rivers which converge before entering at the coastline, which has black sandy beaches. The terrestrial component extends in a narrow band along the coastline and the marine component is extensive, incorporating one large island with coastal species (e.g. calophyllum) and extensive fringing reefs. The WMA is a two hour boat ride from Pamalmal.
Map references	Ludtke 1:100 000 topo sheet 9186
When was the protected area gazetted or formally established?	13/11/1997
Reference for gazettal or Memorandum of Understanding (MoU)	

Who owns the protected area? please enter Government Private Community/ customary landowners, Other (name)	Customary landowners (9 Clans – Una, Oio, Rama, Sale, Malkori, Kaikaei, Menem, Lausus Paele, Lausus Sipa)
Number of households in PA	184
Population size in PA	1155
Who manages the protected area?(e.g., please enter government, customary landowners, management committee)	Customary landowners and Management Committee
Number of staff (this means anyone working on the protected area in paid jobs –whether NGOs, community, rangers or customary landowners s	0
<i>Temporary</i>	0
<i>Permanent</i>	0
Annual budget (US\$) – excluding staff salary costs	0
Operational (recurrent) funds	0
Project or special funds	Donations from nine donors e.g. Global Environment Facility, Seacology, Forcet (at Mugarou), Mama Graun Conservation Trust, European Union (boundary description), Local level government.
Reason for protected area establishment	Protect the environment for current and future generations. To promote sustainable livelihoods.
What are the main values for which the area is designated (Fill this out after data sheet 2)	Forest, Islands, traditional sites, Marine reefs and fish, waterfalls, clean water
List the primary protected area management objectives (add lines if needed after the most important objectives) Management objective 1	Conserve and manage the natural environment.
Management objective 2	Develop community infrastructure (aid post, primary school and church building, guesthouse, women’s house) and community development
Management objective 3	Promote sustainable community business enterprises.
Number of people involved in completing assessment	3
Name/organisation/contact details of people participating the assessment (<i>Please do not insert return/enter or dot points</i>)	<i>Peter Kikele</i> , Tavolo Wildlife Management, Melkoi LLG PO Box 1596 Palmalal, ENBP, peterkikeli@gmail.com, 79138891/70125349, <i>Janet Tokupep</i> , Forcet Ltd, PO Box 1689, Kokopo, ENBP, 73921840, <i>Daniel Savenat</i> , Fprcet Ltd (as above), 73181547.
CEPA staff, Protected area staff (anyone working on the protected area in paid jobs)- Insert - Customary landowners and other community members; NGO; Donors; External experts; Others	Customary landowners, NGO
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 surrounded by development (e.g. a Special Agricultural Business Lease on one side and an oil palm plantation on the other) and the community is working to protect and maintain their forested environment within the WMA. It contains many important species and extends into the offshore waters, where there are four main islands and seven inshore reefs. There are rivers and our 'life is dependent on the river'. The biodiversity is important for subsistence purposes and for tradition and custom (e.g. dances and ceremonies). There are traditional rules that help to protect the environment (e.g. seasonal harvesting of reef species, limitations on the take of turtles for ceremonial purposes, location of gardens outside of the primary forest area).

Table 2. Key values of the protected area

No.	Key values	Brief description	Note if endangered species or ecosystem (IUCN)
1	7 Marine reefs	Fishing for food and also for shell money. Methods and rules on using the reef.	
2	Leather back turtle	Leather back turtle use the beach to lay their eggs.	Leather back turtle
3	Rare species of fish and marine life	Different species of fish and marine organisms.	
4	Waterfalls	Provide clean water to communities.	
5	7 Caves		
6	5 traditional sacred sites	Restricted places believed to be inhabited by supernatural beings.	
7	Forest and biodiversity	Provide people with food, building materials, medicine, different plants and animal species. The number of wallabies has increased since the WMA program. The forest is split into secondary and primary and each has different uses. It is the only forest in that area while the surrounding areas have been used for logging/forest production. The conservation area is an untouched area that contains cassowaries and endangered species of wallabies.	Wallaby, cassowary
8	4 Islands important for birds	One of the islands has different species of birds which come to nest.	

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	People use all aspects of biodiversity to sustain their livelihoods, e.g. animal for consumption, plants for dancing and customs, forest for building houses. Pomio brown (orchid) is only found in Pomio; leatherback and green turtles, cassowaries, bats, pigeons. Birds roost on islands.
2. Presence of rare, threatened, or endangered species (plants and animals)	2	Some species are decreasing near the village. We are trying to look after them. Some rare pigeons.
3. Ecosystems (e.g. wetlands, grasslands, coral reefs etc) that are rare because they	2	WMA has a Special Agricultural Business Lease (SABL) on one side and a palm oil plantation on the other side. We have four islands that other villages benefit from.

have been cleared or destroyed in other areas		
4. Protecting clean, fresh water	2	Life is dependent on the river.
5. Sustaining important species in big enough numbers that they are able to survive here	2	Previously the number of turtles was high but through monitoring we noted that the number had dropped to 14 turtles. In response, at ceremonial times, only one turtle can be taken, rather than many. This will stay in place until the numbers recover.
6. Providing a source of employment for local communities	1	We have only started on our business ventures. We have a guesthouse with 5 staff working; we also have a sawmill project; 5 women's projects to look after business enterprises.
7. Providing resources for local subsistence (food, building materials, medicines etc.)	2	Use herbs and plants for daily use, building material, and some plants for medicines.
8. Providing community development opportunities through sustainable resource use	2	Community development has taken place in response to agreements to conserve resources.
9. Religious or spiritual significance (e.g. tambu places)	2	We are spirit believers in Pomio.
10. Plant species of high social, cultural, or economic importance	2	Some plants are used for medicinal purposes and ceremonial occasions; timber is also milled.
11. Animal species of high social, cultural, or economic importance	2	Use leather back turtles, sharks and pigs to appoint the chief.
12. Attractive scenery	2	
13. Tourism now	1	Tourism is limited as it is difficult to travel to the area; and also get access to the marine environment.
14. Potential value for tourism in the future	2	Many opportunities for tourism in the future.
15. Educational and/or scientific value	2	In the boy house we have an educational process for the young men to learn about traditions and customs and to show respect for elders and the community at large. A similar system exists for the girl houses. There are also elders passing on knowledge about canoe building and kundu (drum) making. Practical knowledge is carried on.
16. Maintaining a tradition of protection by customary landowners (of places, animals, or plants) within the protected area	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	L	
1.1a Population increase in the protected area community	H	A survey has been undertaken in the last five years and it indicated an increase in the population by 25 babies per year.
1.2 Commercial and industrial areas	L	No commercial activities.
1.3 Tourism and recreation infrastructure	L	Not many tourism activities.
2.1 Customary land owner and community gardens and small crops	L	
2.1a Drug cultivation	L	Grow tobacco.
2.1b Commercial plantations	H	Oil palm plantations cause problems with pollution.
2.2 Wood and pulp plantations	0	
2.3 Livestock farming and grazing	0	

Threat type	Score (H,M,L,0)	Notes
2.4 Marine and freshwater aquaculture	L	Small fish farms.
3.1 Oil and gas drilling	0	
3.2 Mining and quarrying	H	Prospecting licences have been issued and this has the potential to cause impacts on water quality.
3.3 Energy generation	0	
4.1 Roads and railroads (include road-killed animals)	H	Province is planning to build a road through the WMA.
4.2 Utility and service lines (e.g. electricity cables, telephone lines)	0	
4.3 Shipping lanes	M	Passenger ships pass near the WMA.
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	The WMA contains the only forest in the area and neighbouring villages sometimes take from the forest.
5.2 Gathering terrestrial plants or plant products (non-timber)	M	
5.3a Logging and wood harvesting for local/customary use	H	The WMA is used by neighbouring communities who take logs from the forest.
5.3b Logging and wood harvesting – commercial logging	L	There is a management area where logs are cut and there is some loss of trees here.
5.4a Fishing, killing and harvesting aquatic resources for local/customary use	H	Population expansion places pressure on the marine environment.
5.4b Fishing, killing and harvesting aquatic resources for commercial use	H	Mainly by outsiders who enter the WMA.
6.1 Recreational activities and tourism	L	
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	L	This happens when people cut trees unnecessarily.
7.1 Fire and fire suppression (including arson)	L	Fire has happened once.
7.2 Dams, hydrological modification and water management/use	0	
7.3a Increased fragmentation within protected area	H	The road from the provincial government is planned and once it is established it will cause problems (loss of trees, erosion, sediment and easier access for outsiders, who may continue to take WMA resources).
7.3b Isolation from other natural habitat (e.g. deforestation)	H	The WMA is isolated because of company activities on logging and oil palm surrounding the protected area.
7.3c Other 'edge effects' on park values	H	Because of company activities on logging and oil palm surrounding the protected area
7.3d Loss of keystone species (e.g. top predators, pollinators etc.)	H	Threat from Piper tree
8.1 Pest plants	H	Piper tree (<i>Piper aduncum</i>) is spreading, causing a drying out of the forest.
8.1a Pest animals	L	
8.1b Diseases such as fungus or viruses that make native plants or animals sick	L	

Threat type	Score (H,M,L,0)	Notes
8.2 Introduced genetic material (e.g. genetically modified organisms)	L	Organic farming is used by the customary landowners.
9.1 Household sewage and urban waste water	0	
9.1a Sewage and waste water from protected area facilities	L	Guest house results in some output of sewage and waste water.
9.2 Industrial, mining and military effluents	H	High impact from a prospecting licence that has already been issued.
9.3 Agricultural and forestry effluents (e.g. excess fertilizers or pesticides)	L	
9.4 Garbage and solid waste	L	
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	M	Earthquakes are felt, which may cause injury and landslides.
10.3 Avalanches/Landslides	L	
10.4 Erosion and siltation/ deposition (e.g. shoreline or riverbed changes)	H	Decreasing shoreline as a result of coastal erosion.
11.1 Habitat shifting and alteration	L	
11.2 Droughts	L	
11.3 Temperature extremes	L	
11.4 Storms and flooding	M	Have experienced cyclones. Flooding happens occasionally and washes into gardens and disperses soil.
11.5 Coral bleaching	L	Change in climate causes the coral to die sometimes
11.6 Intrusion by saltwater into gardens etc.	0	
11.7 Sea level rise	H	We experience it with decreasing shorelines
Other (please explain)	H	The traditional calendar for planting and hunting has been affected
12.1 Loss of cultural links, traditional knowledge and/or management practices	M	Some traditional culture is changing due to outside influences
12.2 Natural deterioration of important cultural site values	L	
12.3 Destruction of cultural heritage buildings, gardens, sites etc.	L	
Other (please explain)		

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	Road	4.1	The Management Committee will negotiate with the Provincial Government in relation to the routing of the proposed road.
2	Oil palm	2.1b	Through legal challenge, mobilise communities to reduce the impact of oil palm expansion into the WMA.
3	Mining	3.2	CEPA needs to assist to prevent mining within the WMA.
4	Population	1.1a	Places pressure on WMA resources. Improvements in awareness are needed through family planning.

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	Legally gazetted.	
1b. Legal status			
2a. Protected area regulations	3	Management committee in place.	
2b. Protected area regulations			
3. Law enforcement	2	Committee does not have paid staff, but the community have the capacity to implement/enforce laws effectively.	
4. Protected area objectives	3	There are three objectives and the WMA is managed to meet its objectives within five years.	
5. Protected area design	3	The area is large and will help with achieving the objectives.	
6. Protected area boundaries	2		
7. Management plan	3	Management Plan is in place.	
7a. Planning process	1		
7b. Planning process	1		
7c. Planning process	0		
8. Regular work plan	0		
9. Resource inventory	1		
10. Protection systems	0		
11. Research and monitoring	1		
12. Resource management	2	Due to the decline in some marine species we have instituted periodic closures of parts of the marine environment.	
13a. Staff numbers	0		
13b. Other people working on the protected area	3		
14. Training and skills	1		
15. Current budget	0	Lack of government funding to provide basic services and ongoing maintenance of the WMA. There is the potential for customary landowners to be bribed or corrupted by outside business interests.	
16. Security of budget	0		
17. Management of budget	NA		
18. Equipment	0		
19. Maintenance of equipment	NA		
20. Education and awareness	1		
21. Planning for land use or marine activities	2		
22. State and commercial neighbours	2		
23. Indigenous people/ Customary landowners	2		
24a. Impact on communities	1		

Issue	Score (0,1,2,3 NA)	Comment	Next steps
24b. Impact on communities	1		
24c. Impact on communities	1		
25. Economic benefit	2	Committee has actively sought funding for a range of projects (e.g. 184 families provided with roofing iron [K100,000], an Aid Post, started Grade 3 & 4 schooling in 2016, housing for teachers, sewing machine group, guest house, community hall etc) to provide basic services and reduce the temptation to invite destructive land use, such as logging and plantations into their WMA.	Continue to access all available funds to provide basic services for the community.
26. Monitoring and evaluation	0		
27. Visitor facilities	2		
28. Commercial tourism operators	0		
29. Fees	NA		
30. Condition of values	2		
30a. Condition of values	0		
30b. Condition of values	1		
30c. Condition of values	1		

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
Forest	VG	I	Yearly monitoring of the forest through a land use survey.
Islands	G	D	Regular visits by outsiders have affected the island. It is difficult to monitor who is visiting the islands to fish.
Traditional Sites	G	I	Elders to continue to teach the young to respect the site.
Marine reef	P	D	Getting worse. Need a public notice of the protected area/more awareness.
Waterfall	VG	S	To maintain the water quality we need a Public notice of rules in relation to the use of the waterfall.

Table 8. Recommendations and ways forward

1.	2.	3.
Need volunteers to train people on the Management Committee and to set up systems for two to three years e.g. business and office skills and marketing and organizational skills.	Enable the exchange of ideas with other protected areas in PNG or elsewhere to identify ways to improve our planning and management. We would look at diverse aspects concerning how to manage a protected area.	All protected areas in PNG should be given some funds to manage their PA. Ongoing funding from a source such as a trust fund or similar, and will be auditable and accountable.