

Name of Protected Area: Pirung Eight Islands 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, gregpeterson53@hotmail.com; 0414300955.
<i>Person 2: Name, Organisation, Address, Email, Phone</i>	Ann Peterson, SPREP/Protected Area Solutions, 283 Madill Road, Tandur, Q4570, Australia, gregpeterson53@hotmail.com; 0414300955.
Today's Date	20/02/2017
Name (or names) of protected area	Pirung Eight Islands Wildlife Management Area
Size of protected area (ha)	43,200
PNG Code or number	
World Database of Protected Areas site code (these codes can be found on www.unep-wcmc.org/wdpa/)	15788
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	Autonomous Region of Bougainville
District/s	Panguna (There is a level of government called Constituency or Community Government – the Aivotorau Constituency)
Local level governments	Nil (this level of government does not exist on AROB)
Ward/s	Torau Council of Elders, Lala'a Council of Elders.
Nearest big town	Arawa
Location of protected area (brief description)	The WMA is located on the south east coast of Bougainville Island. There are eight islands including the large and inhabited island of Pokpok and the smaller inhabited island of Tautsina. There are tall forests (with kwila) on the islands. The seaward boundary of the WMA follows the edge of the inshore reef and the landward boundary is to the high water mark along the coastline. The WMA is about 10km wide and 60km long.
Map references	1:100,000 Topo. Maps Kieta (sh.1085)(sh.9985), Wakunai (sh.9986) Bagana
When was the protected area gazetted or formally established?	25/05/1989
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; > 13 clans (e.g. Rorovana, 7 and from Paraiano to Donsiro, 6, as well as others). The original settlers travelled from the southern tip of Bougainville in the 1860s and settled in the area.
Number of households living in the protected area	People live on Pokpok Island in 10 villages. People do not live on other islands. The number of households is unknown.
Population size within the protected area	Unknown, but approximately a few hundred.
Who manages the protected area? (e.g. please enter government, customary landowners [add clan names] management committee [how many and what gender])	There is no management at present and there is no Management Committee. Pirung Community Government managed the WMA before the crisis.
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	To protect and control the use of the area by non–customary people and also to protect the subsistence resources within the WMA from over exploitation by clan members. There was an influx of people from different cultures and some of these cultures didn't care for our culture on the coast. They didn't care if they caused problems.
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 our resources such as trochus shells, clams and fish as they provide part of our cash income to support members of the community.
<i>Management objective 2</i>	To protect the wildlife (e.g. pigeons, megapodes and fish).
<i>Management objective 3</i>	
Number of people involved in answering the assessment questions	5
Name/organisation/contact details of people participating in the assessment	<i>Beatrix Oni</i> , Bougainville Environment Bureau, Department of Lands, Physical Planning and Environment Conservation, PO Box 322, Buka, AROB, onibeatrix@gmail.com, +675 79368990; <i>Rooney Solly</i> , Bougainville Environment Bureau, Department of Lands, Physical Planning and Environment Conservation, PO Box 322, Buka, AROB, sollyroomz@gmail.com, 72885282; <i>Mary M. Genu</i> , Uruawa/Rorovana Landowners, Lolotto, Bougainville, Rorouana Village, Panguna District, PO Box 169, Arawa, 72885282; <i>Jude Genu-Sirinai</i> , Uruawa, Rorouana Landowners Association, PO Box 169, Arawa, AROB; <i>Bernard Suruman</i> , CEPA.
Customary landowners/other community; CEPA, Other national government agency; Provincial govt; local level govt; Protected	Customary landowners, Provincial Government and CEPA.

area staff (anyone working on the protected area in paid jobs; NGO; Donors; External experts; Others	
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?

Pirung means coastal people and in the Pirung WMA there are important marine resources. We have sea shells (e.g. trochus, clams and cone shells), fish (e.g. red emperor, tuna, sail fish, marlin and diverse reef species), sharks, turtles and birds (e.g. sea gulls, pigeons, herons and megapodes). There are eight islands. One island is sandy and people go there for picnics and recreation and sometimes stay overnight. Five islands have forest and there are good hardwood species (e.g. kwila and others) that are used for building houses. There is also the kerosene tree the timber of which is used for carving and ceremonial purposes and there are plants that are used for medicinal purposes. We have traditional fishing grounds that were founded by our forefathers, including areas for deep sea fishing. There are three ethnic groups, each of which has rights to use the marine resources within its allocated area.

Table 2. Key values of the protected area

No.	Key values	Brief description	Note if endangered species or ecosystem (IUCN)
1	Marine resources	Fish (yellow fin tuna, skipjack and red emperor) - tuna are an important source of income as local people sell fresh fish, especially tuna in the market); shell fish (e.g. trochus are sold to generate income); sharks; and turtles (green, hawksbill and leatherback nest on the beaches in the north, although this is rare now). Turtles (mainly leatherbacks) are hunted by inland people and eggs are collected. There are several important reefs.	Leatherback turtles
2	Birds	Pigeons, herons, sea gulls and megapodes are found on the islands and many are hunted, especially the pigeons. Megapode eggs are used as a protein source.	
3	Sandy beaches	These are located in the northern coastal area and on some of the small islands. They are important for recreational purposes.	
4	Forest on the islands	Five of the islands are forested. The trees are used for building material and some trees have cultural importance and are used in carvings and traditional medicines.	

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	There are many marine species e.g. turtles, fish, shells, clams and birds. People use the marine resources for their subsistence living (e.g. tuna, trochus shells).
2. Presence of rare, threatened, or endangered species (plants and animals)	2	Turtles (leatherback, hawksbill), kwila (which is disappearing), megapodes and tuna (which is seasonal and the numbers are declining).
3. Ecosystems (e.g. wetlands, grasslands, coral reefs etc) that are rare because they have been cleared or destroyed in other areas	2	Reef ecosystems are important and extensive.

4. Protecting clean, fresh water	2	Clean water is very important on Pokpok Island where water is obtained from rivers that flow from the mountains on the island.
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	At present there is no employment in the WMA, but this is important for the future.
7. Providing resources for local subsistence (food, building materials, medicines etc.)	2	The WMA provides fish and other marine resources and materials for subsistence living.
8. Providing community development opportunities through sustainable resource use	2	People can use the resources of the WMA to improve their living standards, e.g. tuna are sold in the market
9. Religious or spiritual significance (e.g. tambu places)	1	There were tambu places – a stone where people got their language from (a sacred area). A giant octopus resides in the marine area near Vito Village and if you go there you will get sick. Clans used to have certain places to bury their dead at sea, but this doesn't happen now due to Christianity. The spirits of the dead are in the sharks. The tradition of teaching young men to be a shark callers is not happening – the skills are not being passed on to the younger generation and these areas are becoming less important. There are two areas that our ancestors used to make clay pots, but people don't use it now (don't make clay pots now).
10. Plant species of high social, cultural, or economic importance	2	There are kwila trees that have been there for a long time and are important, and also kerosene wood and seagrass (near some islands).
11. Animal species of high social, cultural, or economic importance	2	Fish (tuna) and trochus shells are important species as they are sold in the market to supplement living standards.
12. Attractive scenery	2	Pirung has beautiful scenery and used to charge a fee for people going to the island for recreational purposes. There are beautiful beaches and reefs.
13. Tourism now	2	Tourism is very important, but there is no tourism now.
14. Potential value for tourism in the future	2	It is a very beautiful place and has great potential for tourism.
15. Educational and/or scientific value	2	The WMA is important for educational purposes, but there has been no research undertaken in the WMA.
16. Maintaining culture and tradition on customary land and passing this on to future generations	2	It is important to pass on knowledge and traditions to the younger generation.

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	H	There is increased housing and settlement and this produces more waste (e.g. toilets are overwater) and places pressure on the WMA's resources.
1.1a Population increase in the protected area community	H	The population is growing and there is a shortage of land. The rising population places pressure on the extraction of marine resources (e.g. trochus shells, which are a main income and increased take of fish).
1.2 Commercial and industrial areas	H	Chemicals from the Panguna mine still enter the WMA. At and near the wharf where copper was loaded there are old drums with chemicals. A power plant and remains from scrap metal. There is a lot of waste. We want the waste removed – these are legacy issues. There

Threat type	Score (H,M,L,O)	Notes
		is a smell in this area and it is suspected that there are deformities as well as cancers and miscarriages that have resulted from this pollution.
1.3 Tourism and recreation infrastructure	0	
2.1 Customary land owner and community gardens and small crops	L	There are gardens on the islands, but the impact is low.
2.1a Drug cultivation	0	Drugs are a problem everywhere, but it is not cultivated in our WMA.
2.1b Commercial plantations	L	There are commercial coconut and cocoa plantations. The coconut plantation uses pesticides and farmers use fertilisers and there may be some impact on water quality.
2.2 Wood and pulp plantations	0	
2.3 Livestock farming and grazing	L	There are a couple of commercial livestock farms in the north. This has caused the destruction of forest and there is sediment run-off into the WMA.
2.4 Marine and freshwater aquaculture	0	
3.1 Oil and gas drilling	0	
3.2 Mining and quarrying	H	There is no active mining, but chemicals from the Panguna mine still enter the WMA. There is a wharf where copper was loaded and it is a source of pollution. There is an old power plant, which is full of chemicals that have been dumped on the ground, and also scrap metal. There is a lot of waste material. We want the waste removed. These are legacy issues. There is a smell in this area and it is suspected that there are deformities as well as cancers, miscarriages that have resulted from this.
3.3 Energy generation	L	Energy is generated from a diesel generator in the township. There has been spillage of oil into the sea.
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	L	Ships enter the WMA e.g. Bismarck Shipping. There may be accidental damage.
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	People hunt birds (e.g. pigeon) for subsistence and sale in the local market. Megapode eggs are taken and they are declining. There needs to be some controls placed on this take.
5.2 Gathering terrestrial plants or plant products (non-timber)	0	
5.3a Logging and wood harvesting for local/customary use	H	Timber is cut to make houses and for firewood. There needs to be some controls on timber harvesting.
5.3b Logging and wood harvesting – commercial logging	0	
5.4a Fishing, killing and harvesting aquatic resources for local/customary use	H	As the population is increasing there is over-fishing. There is take of tuna, prawns, crayfish, beche de mer and trochus shells. This is a result of customary and non-customary take, (e.g. 3 rd parties as well as people from within protected area). These people are not aware and do not respect the protected area. This is causing large impacts e.g. declining fish numbers. The people from one part of the PA may not respect the areas that belong to the other clan owners and may enter their area to take fish and other resources. Turtles are taken for local consumption/use.
5.4b Fishing, killing and harvesting aquatic resources for commercial use	M	There is some commercial tuna fishing vessels/ships entering our area. We don't know how much fish is taken. Trochus shells are sold in the markets (but not turtles).
6.1 Recreational activities and tourism	L	There has been some recreational use e.g. local communities go on picnics to the islands. We have to monitor the impact of these activities.
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	0	We need researchers to come to our WMA and this information will help us to better manage the WMA.
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	L	There are impacts from the mine waste and wharf facilities on the mainland. Some commercial fishing vessels enter the WMA and may damage the WMA.
7.3d Loss of keystone species (e.g. top predators, pollinators etc.)	0	
8.1 Pest plants	0	
8.1a Pest animals	L	Crown of thorns starfish may be present.
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	There are over-water toilets and other effluent that enters the WMA (from Arawa and the islands).
9.1a Sewage and waste water from protected area facilities	0	
9.2 Industrial, mining and military effluents	H	This mainly arises from the previous mining activity as the remains of mining have not been appropriately treated.
9.3 Agricultural and forestry effluents (e.g. excess fertilizers or pesticides)	L	The effluent (e.g. pesticides) is mainly from the cocoa plantations.
9.4 Garbage and solid waste	L	There is some garbage from the settlements that enters the WMA.
9.5 Air-borne pollutants	M	There is a smell from the rusting fuel drums and other material and these are dangerous chemicals (this is risky).
9.6 Excess energy (e.g. heat pollution, lights etc.)	0	
10.1 Volcanoes	L	The WMA is close to an active volcano (Mt Bagana) and there is potential for impact.
10.2 Earthquakes/Tsunamis	H	We recently experienced a major earthquake (level 8 on Richter scale) and this has the potential to impact on the WMA.
10.3 Avalanches/Landslides	L	
10.4 Erosion and siltation/ deposition (e.g. shoreline or riverbed changes)	M	There is erosion along the northern extent of the WMA. This is caused by wave erosion (due to higher sea levels) and river erosion (from greater storm activity).
11.1 Habitat shifting and alteration	H	There are rising sea levels; change of breeding grounds for crabs in the mangrove areas (moved to another habitat that has mud rather than sand); and fresh water shells have also moved due to a change in habitat.
11.2 Droughts	M	We have experienced droughts. This increases the incidence of fire that can destroy the forest on the islands.
11.3 Temperature extremes	L	We experience the heat – it is hotter.
11.4 Storms and flooding	H	More severe storms are felt. The main impact is on coastal erosion and flooding.
11.5 Coral bleaching	L	There is some coral bleaching (perhaps 5-10% of the reef).

Threat type	Score (H,M,L,O)	Notes
11.6 Intrusion by saltwater into gardens etc.	0	
11.7 Sea level rise	H	This is occurring and causing coastal erosion.
Other (please explain)		People are talking about climate change. They are seeing it.
12.1 Loss of cultural links, traditional knowledge and/or management practices	H	There is a loss of cultural links and traditional knowledge (e.g. how the ancestors went about their lives). There are outside influences (loss of traditional ways of fishing - now they use smaller nets and the methods have changed). Inter-marriage increases the loss of traditional culture. However, we maintain our matrilineal heritage.
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	Climate change (sea level rise, habitat change, storms/flooding)	11.1,11.4,11.7	Climate change is difficult to stop and causes severe consequences (it is uncontrollable). We need more awareness raising to discover some solutions. We may need to think about finding new areas to settle.
2	Population increase	1.1a	The limited land (i.e. limited in total area, and limited suitability as much is wetland) makes this a big issue (e.g. higher numbers of people in each house, fewer places to build houses, increases in pollution such as rubbish and effluent from toilets). People are talking about this issue. There have been discussions with our neighbours to secure more land and move inland in the future.
3	Pollution	9.2,9.3	Mining effluent from the Panguna mine is still causing many impacts and also the effluent from agricultural activities.

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 gazetted.	
1b. Legal status			
2a. Protected area regulations	1	There is no management for the WMA. Certain areas within the protected area are allocated to a particular community and other communities are prohibited from going into these areas and taking the resources. We tell people to move away if they are not in the correct place to fish. However, some people don't listen and they just do what they want.	We need to come together as the WMA is very big and we need to talk and cooperate. We need to identify community boundaries and identify use zones.
2b. Protected area regulations			

Issue	Score (0,1,2,3, NA)	Comment	Next steps
3. Law enforcement	1	There is a Village Assembly (on the ground). There are seven clan chiefs who represent the villages in the Village Assembly. The Chair is a Village Chief who is elected by voting and is responsible for enforcing the guidelines and rules concerning the WMA. They can come up with policies for the WMA. There are some village policemen that enforce the rules, but they lack support and resources (e.g. no boat).	The existing structure is not functioning well. We need to discuss how to move forward. We need a separate Management Committee to oversee Pirung and this would include some of the Chiefs.
4. Protected area objectives	0	There were objectives when the WMA was established, but there are no agreed objectives now.	A group needs to be formed to progress the development of a Management Plan and related objectives.
5. Protected area design	2	The size and shape are satisfactory, but internal management could be better.	Develop a zoning plan to identify areas of responsibility for the clans.
6. Protected area boundaries	1	The boundary is generally known, but is not always respected by other communities.	We must come together (i.e. communities from within and outside the WMA) and raise awareness of the boundaries. This will help to promote good relations between the communities now and in the future.
7. Management plan	0	There is no Management Plan	We need to develop a Management Plan for the WMA.
7a. Planning process	0	Rights holders have no input into planning because there is no plan.	
7b. Planning process	0	There is no regular review or updating of plans.	
7c. Planning process	0	Monitoring is not undertaken.	
8. Regular work plan	0		First develop the Management Plan and then a Work Plan.
9. Resource inventory	0		Information is needed on the marine ecosystem and associated cultural values.
10. Protection systems	0	There are no permits and no patrols.	
11. Research and monitoring	0		
12. Resource management	0	Traditional practices of resource management exist.	Strengthen and enhance traditional resource management practices.
13a. Staff numbers	0	We used to have rangers when the WMA started and they undertook surveillance.	We need rangers on the ground to assist with management.
13b. Other people working on the protected area	0	We are not fully aware of the activities undertaken by other communities within the WMA.	There needs to be communication and awareness raising to encourage members to engage in the WMA.
14. Training and skills	0		
15. Current budget	0	District Services Improvement Program can provide some income (although this traditionally is spent on infrastructure). The LLGs decide on how money is distributed.	Try to access funds from the District Services Improvement Program (e.g. submit proposal to the electoral office).
16. Security of budget	0		
17. Management of budget	NA		

Issue	Score (0,1,2,3, NA)	Comment	Next steps
18. Equipment	0	There is currently no equipment. In 2009 we sought assistance to get banana boats to patrol the area, but they are broken now.	Basic equipment is needed e.g. a boat. We need to set up a Management Committee and provide equipment to the Committee to facilitate their work.
19. Maintenance of equipment	NA		
20. Education and awareness	0		The community needs to have information about their protected area and its importance. This could be introduced into the education system and include the participation of community members and leaders.
21. Planning for land use or marine activities	0	Our land has been taken and used for mining purposes. Mining may come again and the main wharf is there.	The WMA needs to be better organised so that we can plan for our area and raise its profile so that others are aware of the WMA and avoid negative impacts on the WMA.
22. State and commercial neighbours	0		There should be greater engagement between the WMA and all levels of government and industry.
23. Indigenous people/ Customary landowners	0	There is no organisational structure and no way for landowners to be involved in decision making.	
24a. Impact on communities	0	No communication and trust between customary landowners and other stakeholders.	
24b. Impact on communities	0	No programs to improve community welfare.	Community programs are needed.
24c. Impact on communities	0	Not all people are aware of the presence of the WMA, but it is believed that the people will support the reinvigoration of the WMA.	There needs to be awareness raising to maintain support for the WMA.
25. Economic benefit	2	Some marine resources are sold in local markets to supplement the living standards of the people.	Develop a sustainable fishing project and attract small community developments that support improved livelihoods. Tourism could be improved as the area has good beaches, reefs and scenery.
26. Monitoring and evaluation	0		
27. Visitor facilities	0	Most visitors stay in Arawa and visit the area and its beaches.	
28. Commercial tourism operators	0		
29. Fees	0	Fees were charged in the past, but there is currently no structure for this now.	
30. Condition of values	2		
30a. Condition of values	0	The assessment is not based on monitoring.	Research and monitoring are important to assist management and planning.
30b. Condition of values	0	There are no threat abatement plans.	Threat planning is an important part of park management.
30c. Condition of values	0	There is no routine park management.	Resources are needed to implement park management actions.

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
Marine resources	F	I	People have been taking marine resources and there is no control over this take. Some areas in the WMA are affected, mainly as a result of the mining effluent. Some corals near the villages look dead and many shells have disappeared. A Management team is needed to assess the condition of these resources. With the plan in place we can then take action.
Birds	F	D	The islands used to be sanctuaries for a diverse number of birds, but hunting has reduced their numbers. Pigeons and megapodes are decreasing. Protection is needed for these species.
Sandy beaches	VG	S	These are used for recreation. Nature looks after the beaches.
Forest on the islands	G	S	Once the trees are cut (e.g. kwila) they forest will take a long time to regenerate.

Table 8. Recommendations and ways forward

1.	2.	3.
Re-establish the Management Committee and begin the process of developing a Management Plan and related actions. Then implement the plan by ensuring sufficient financial and resource support, and on-ground presence of staff.	Identify threats that may impact on the WMA. This could include the impacts from previous mining waste and identify remedial actions to reduce impact on the environment and the people.	Raise community awareness to ensure ongoing commitment to the WMA and also raise the awareness of all levels of government of the issues facing the WMA.

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

	Strengths	Challenges
1	The marine resources remain in a stable condition and are believed to be improving.	Raising the awareness of the traditional landholders and other stakeholders of the existence and importance of the WMA.
2	The marine environment provides important resources to sustain the livelihoods of the community.	Re-establishing the Management Committee and developing a new plan in the face of limited resources and funding.
3	There is potential support for the re-emergence of a functioning protected area.	Rehabilitation of the former Panguna mine and related facilities to reduce chemical effluent from entering the WMA and impacting on customary landowners in the face of lack of ownership of the problem.
4	The relatively large size of the WMA is a solid foundation for improved future management to achieve conservation outcomes.	
5	The WMA offers high quality scenic values that have potential to form the basis of an eco-tourism industry that can provide sustainable income to the community.	