Name of Protected Area: Sulamesi 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	James Sabi, Conservation and Environment Protection Authority (CEPA), PO Box 6601, Boroko, NCD, james.sabi.roaming@gmail.com or jsabi@dec.gov.pg, 301452	
Person 2: Name, Organisation, Address, Email, Phone	Gregory Peterson, SPREP/Protected Area Solutions, 283 Madill Road, Tandur, Q4570, Australia, gregpeterson53@hotmail.com, 0414300955	
Today's Date	28/2/2017	
Name (or names) of protected area	Sulamesi Wildlife Management Area	
Size of protected area (ha)	86,451	
PNG Code or number		
World Database of Protected Areas site code (these codes can be found on www.unepwcmc.org/wdpa/)	NA	
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?	Part of the World Heritage Tentative List – Kikori River Basin (see Hitchcock and Gabriel, 2015 for a review)	
Country	Papua New Guinea	
Province/s	Southern Highlands; and a very small portion in Western Province	
District/s	Kasua	
Local level governments	Mt Bosavi (Southern Highlands) and Bamu (Western Province)	
Ward/s	1 – 7 in Mt Bosavi	
Nearest big town	Mendi	
Location of protected area (brief description)	The WMA lies on the south-eastern slopes of Mt Bosavi, in the Kikori River Basin/Great Papuan Plateau. Mt Bosavi (2,507m) is a collapsed cone of an extinct volcano; 4km wide; 1km deep. The WMA is mainly mountainous but includes the Sulamesi Valley. There is tropical rainforest in the lowland and a number of streams and rivers run down the slope from Mt Bosavi.	
Map references		
When was the protected area gazetted or formally established?	07/02/2008	
Reference for gazettal or Memorandum of Understanding (MoU)		
Who owns the protected area? please enter Government Private Community/ customary	Customary Landowners – Kosua peoples. Clans are: Kikili, Kamana Sibise, Kasolo, Tebela, Kuyala, Hetake, Bisasi, Kamana Olapise, Temeta and Seyesi.	

landowners, private, Other (name) and include Clan name(s)		
Number of households living in the protected area	254 (Iwatubu 74; Musula 94; Kawalase 48; Igisalobo 38).	
Population size within the protected area	About 1900 (Musula 800, Iwatubu 900, Igisalobo 98, Supulesyea 45, Gatiyaguna 57)	
Who manages the protected area? (e.g. please enter government, customary landowners [add clan names] management committee [how many and what gender])	Management Committee - 11 executive (9 M, 2 F) and 11 other members (10 M, 1 F)	
Total number of staff (this means anyone working on the protected area in paid jobs – whether NGOs, community, rangers or customary landowners	0	
Temporary paid workers	0	
Permanent paid workers	0	
Annual budget (US\$) – excluding staff salary costs	0	
Operational (recurrent) funds	0	
Project or special funds	Some funds committed to support culture ceremony at Gatiyagunu and awareness raising.	
Reason for protected area establishment	To stop logging because it will destroy the environment. To protect the rainforest animals who live on land, water, in the air and in the trees and to save our wildlife for the next generation and for the people of the Mt Bosavi area.	
What are the main values for which the area is designated (Fill this out after data sheet 2)	Butterflies; animals and plants; mountains; freshwater and waterfalls; and customs and traditions.	
List the primary protected area management objectives (add lines if needed after the most important objectives): Management objective 1	The World Heritage Area Tentative listing indicates the objectives as "to protect fish from become scarce, preserve crocodiles, protect wildlife and other resources, protect sacred sites, control over-fishing and over-hunting, identify landmarks and boundaries, protect medicinal plants, protect breeding homes for animals, protect the homes of special flying foxes, prevent illegal trespass by strangers/outsiders, prevent industrial logging coming inside this area and protect the area from spills of chemicals or waste" (WWF 2006). It is unclear if there are more recent objectives.	
Management objective 2	Develop and promote community focused wildlife management and sustainable livelihood strategies and practice that are economically viable, culturally appropriate, socially fair and equitable and environmentally sound.	
Management objective 3		
Number of people involved in answering the assessment questions	4	
Name/organisation/contact details of people participating in the assessment	Patrick Pate, PO Box 8280, Boroko, NCD, patrick.pate27@gmail.com, 72871788; Bana Deabe, Guavi Village, c/- Sulamesi Community Resource Centre; Daniel Bamo, Iwatubu Village, c/- Sulamesi Community Resource Centre; Ben John, Musula Village, c/- Sulamesi Community Resource Centre.	
Customary landowners/other community; CEPA, Other national government agency; Provincial govt; local level govt; Protected	Customary landowners	

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?

There is a high level of awareness about the WMA. The forests remain largely intact and are used for subsistence purposes (hunting, fishing and collecting bush materials and harvesting sago to make 'saksak' [sago dumplings]). We have looked after our area for a long time, with many rules in place. We have many different types of **animals**: butterflies, moths and insects; special fish; freshwater eels and turtles; crocodiles – for sale and for eating; cassowary (there are three different species of muruk); bird of paradise e.g. raggiana; special cuscus – tree kangaroo - we must try to protect its habitat from logging on the western side; and different snakes and lizards that we are trying to protect. We have special **mountains** and special **water** (for washing and drinking) and waterfalls. This is a water management area and all villages are involved and aware of the importance of protecting the water. There are **caves**, with cave art and this is special and there are flying fox in the caves. There are special **sacred sites** that we try to protect. The wild dog may have some important history. There are special **forests** – we need to protect the forest from logging for the landowners; and special flowers (orchids, vines for ropes and food for butterflies and some have medicinal value) - we need to protect and not cut them. We have tambu hunting areas where there is no hunting and we protect these. There are some pigs. We have a cultural centre with stone axes and other artefacts and there are villages where the people live.

Table 2. Key values of the protected area

No.	Key values	Brief description	Note if endangered species or ecosystem (IUCN)
1	Butterflies	Over 500 species of butterflies and moths, including one of the largest butterflies in the world. The 1995 WWF survey of Mt Bosavi indicated a very high diversity of moth species and high endemism.	
2	Animals and plants	Extensive animal biodiversity, including eels, turtles, birds (e.g. cassowary, birds of paradise [Black Sicklebill BoP], pigeons, New Guinea Harpy eagle, Gurney's eagle, palm cockatoo, Carola's parotia), tree kangaroo, cuscus, snakes, crocodiles, wild pigs, flying foxes, reptiles (e.g. the world's longest lizard) and fish. Hunting is forbidden in certain areas and these areas are rarely visited – even on a casual basis. There are forests with trees for medicine and food, and many flowers and vines. Eight new species of orchid have been found here.	
3	Mountains	The forested mountains are a special place not only for significant biodiversity, but for visual amenity and a sense of peace and tranquility.	
4	Freshwater and waterfalls	Freshwater is the life blood of any subsistence community. Mt Bosavi is the source of all drinking water for most villages in all directions around the mountain. It is drained by many small creeks. Protection of the forests on the mountain is important to maintain the supply of water.	
5	Cultural and traditions	Our culture is our identity and is strongly linked to our forest. Saving our forest is saving our culture. There are cave paintings, tambu hunting areas and a cultural centre.	

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
Biodiversity – the presence of many different kinds of plants, animals and ecosystems	2	We don't have a supermarket. Our WMA is the supermarket. There are trees and plants for medicine, flowering plants, eagle wood, cassowary, tree kangaroo, bird of paradise, insects with milk, wild dogs, pigs, cuscus and butterflies. Some species are hunted in the hunting areas. There are also wild dogs that eat the fish and this gives them great hunting ability enabling them to catch wild pigs.
Presence of rare, threatened, or endangered species (plants and animals)	2	Several rare bird species (Black Sickle Bill BoP and Carola's parotia are restricted range endemics); the rare Campbell's fairy wren); moths and butterflies; a rare tree mouse, the large Pogomelomys; the tree striped Dasyure (a carnivorous marsupial; and the round-eared tube-nosed bat. The wild dog is rare. Crocodiles are threatened. Once they are destroyed it will be the end of that species. We need to protect all the plants because of their food, medicinal and amenity qualities.
3. Ecosystems (e.g. wetlands, grasslands, coral reefs etc) that are rare because they have been cleared or destroyed in other areas	2	There are forest ecosystems and special cave ecosystems with waterfalls.
4. Protecting clean, fresh water	2	Freshwater is very important to maintain. There are many creeks flowing from Mt Bosavi and also waterfalls and caves.
5. Sustaining important species in big enough numbers that they are able to survive here	2	There are many important animals that can survive in the area. There are caves that provide habitat for several species.
Providing a source of employment for local communities now	2	Selling eagle wood provides some income.
7. Providing resources for local subsistence (food, building materials, medicines etc.)	2	Our existence and livelihood depends on the sustainable use of all of our resources.
Providing community development opportunities through sustainable resource use	0	There is no community development at the moment but we would like to increase community development through more funding. In the past there has been training and awareness in relation to conservation and development, vanilla and butterfly farming, community development processes, gender, para-legal issues and funding for study tours.
Religious or spiritual significance (e.g. tambu places)	2	It is our life and that of our ancestors and is important to protect.
10. Plant species of high social, cultural, or economic importance	2	Dressing in traditional dress is important for the continuation of culture. Everything (including the forest, trees, wildlife) is connected with our culture.
11. Animal species of high social, cultural, or economic importance	2	Dressing up in traditional dress is important for the continuation of culture.
12. Attractive scenery	2	It makes me feel happy. The spectacular scenery could be the basis for future film productions.
13. Tourism now	0	There is no tourism now.
14. Potential value for tourism in the future	2	We need tourism to increase to help provide income for the community and raise the standard of living of the people. The area offers opportunities for film production and related tourism.
15. Educational and/or scientific value	2	Our future depends on protecting the WMA and it is also important for the world.
16. Maintaining culture and tradition on customary land and passing this on to future generations	2	Critical for our culture to continue. There are many caves, including skull caves and tambu hunting areas. Additional information (Patrick Pate): Children perform in traditional dress at ceremonies. The Bosavi area was one of the last places in PNG explored by the Australian Administration. The

first European contact was in the 1930s when several
Australian Government patrols passed through the area.
During WW2 there was sporadic government contact, which
continued from the late 1940s up to the time of contact with
the missionaries in the 1960s. The area has clearly defined
leadership; a powerful sense of reciprocity and payback; a
strong sense of communalism and egalitarianism; and male
dominance. An anthropologist commented on Kaluli and
Kasua culture - "their traditional political culture was
anarchic, and their traditional modes of organizing projects
were through drawing on networks of social obligations and
relationships, and by community consensus arrived at
through lengthy debate in the long house" (Schiefflin 1996).
There is a strong tradition of helping others and there is a
strong belief in the power of the trees – trees are
sanctuaries and are important in culture.

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
- 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	Notes
	(H,M,L,0)	
1.1 Housing and settlement	L	Housing and settlement are managed and controlled and the impact is minimal.
1.1a Population increase in the	Н	The land size will not increase, but the number of people will increase.
protected area community		There are some men from another village who come to their wife's village and claim and use some land. This was not a traditional practice in the past and this places pressure on the protected area.
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	L	The impact is currently very low.
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 fish ponds and fences across the streams near to the fish farms.
3.1 Oil and gas drilling	Н	Significant impact from edge effects as a result of oil and gas exploration and development. Oil Search is engaged in extensive gas field development in the surrounding area.
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	Aircraft are known to kill birds and cause noise and possible fuel emissions that impact on the people and environment.
5.1 Hunting, killing and collecting terrestrial animals (including killing of animals as a result of human/wildlife conflict)	L	There are tambu areas for hunting. These areas do not change. However, the hunting practices can sometimes be unsustainable.

Threat type	Score (H,M,L,0)	Notes
5.2 Gathering terrestrial plants or plant products (non-timber)	L	Eagle wood and orchids are gathered and there may be some low impact.
5.3a Logging and wood harvesting for local/customary use	L	There is a walkabout mill (Lucas brand) that extracts timber.
5.3b Logging and wood harvesting – commercial logging	0	The Wawoi timber project and Torama timber company are just on the outside of the WMA, but they are not considered to be having an impact.
5.4a Fishing, killing and harvesting aquatic resources for	М	There is random and unmonitored fishing. The impacts are thought to be moderate. Poison rope is used in the river and can kill all the fish.
local/customary use 5.4b Fishing, killing and harvesting aquatic resources for commercial	0	The traditional fishing practices can sometimes be unsustainable. Fish are caught and then sold in local markets.
6.1 Recreational activities and	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	М	This does happen on some occasions from people who come from outside the WMA.
7.1 Fire and fire suppression (including arson)	М	Fire is a threat only in the dry season and impacts mainly on the vegetation.
7.2 Dams, hydrological modification and water management/use	0	
7.3a Increased fragmentation within protected area	М	New gardens are expanding into the WMA.
7.3b Isolation from other natural habitat (e.g. deforestation)	0	
7.3c Other 'edge effects' on park values	M	We now experience trespassing on our lands.
7.3d Loss of keystone species (e.g. top predators, pollinators etc.)	L	Cassowary numbers are declining.
8.1 Pest plants	L	Within the WMA there are some pipa plants.
8.1a Pest animals	L	No pest animals, other than introduced fish, which may be a problem in the future if they escape into the waterways.
8.1b Diseases such as fungus or viruses that make native plants or animals sick	М	Disease in banana tree.
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	
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	

Threat type	Score	Notes
	(H,M,L,0)	
10.3 Avalanches/Landslides	L	Heavy rains cause landslides.
10.4 Erosion and siltation/	L	There are some minor changes during weather events, but these
deposition (e.g. shoreline or riverbed		changes self-correct.
changes)		
11.1 Habitat shifting and alteration	L	
11.2 Droughts	L	
11.3 Temperature extremes	M	We experience that it is now colder at night.
11.4 Storms and flooding	M	Storms and flooding are occurring during the wet season only.
11.5 Coral bleaching	0	
11.6 Intrusion by saltwater into	0	
gardens etc.		
11.7 Sea level rise	0	
Other (please explain)		
12.1 Loss of cultural links, traditional	0	The elders advise the children on customs and traditions. There is a
knowledge and/or management		special water place - when this water is rubbed on the skin it cures
practices		sickness.
12.2 Natural deterioration of	L	A tree fell into a special cave and destroyed it.
important cultural site values		
12.3 Destruction of cultural heritage	L	
buildings, gardens, sites by people		
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	Population increase	1.1a	To delay marriage and having children. There is a traditional rule to make a house and garden first, and then think about marriage and children.
2	Oil and gas drilling	3.1	Get the WMA rules going again and increase the enforcement process to minimise impacts.
3	Trespassing and vandalism	6.5,7.3c	Increase monitoring and check who is coming into the WMA. Inform customary landowner families of the problem and raise awareness of the problem.

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.	Re-gazette the WMA under PNG's new protected area legislation.
1b. Legal status			
2a. Protected area regulations	2	There are traditional rules in place, but some people ignore the rules.	Enforce the WMA rules and consider increasing the penalties.
2b. Protected area regulations			
3. Law enforcement	2	There is the capacity to enforce the regulations, but we have some deficiencies, including lack of resources to fund this.	Develop and implement an awareness campaign to ensure that everyone understands the rules and why these are important and give the customary landowners a copy of the regulations. Continue to remind people of the issues concerning the WMA.

Issue	Score (0,1,2,3, NA)	Comment	Next steps
4. Protected area objectives	2	There is a Management Committee and the plans are there, with agreed objective and the people are keen and they want action to achieve the objectives.	We need funds to implement the plans and better manage the WMA.
5. Protected area design	3	The design is good and allows us to achieve the agreed objectives of the customary landowners.	
6. Protected area boundaries	3	The boundary of the WMA is known, recorded and respected, although there are some outsiders who now enter the WMA.	
7. Management plan	2	There is a Management Plan, but not all the actions are being implemented due to lack of funding and resources.	Secure sufficient funding to fully implement the Management Plan
7a. Planning process – rights holders	1	The customary landowners have input into the Management Plan and the ability to inform decision making.	
7b. Planning process – plan review	1	We do review the plan and update the objectives.	
7c. Planning process – monitoring informs plan	1	There is monitoring by the customary landowners and this informs our planning.	
8. Regular work plan	1	There is a work plan, but few of the actions are implemented due to lack of funding.	The Committee members need to meet to get a commitment from the community to implement the existing work plan and also to secure appropriate funding.
9. Resource inventory	3	There is sufficient information on the WMA to enable us to manage it e.g. information on many species and ecosystems. Most of this information is based on traditional knowledge of the area.	
10. Protection systems	1	We have minimal protection systems – mainly the customary landowners who live in the WMA.	We need support from CEPA or UNDP to assist with developing effective systems to better protect the WMA.
11. Research and monitoring	3	There has been research into many aspects of the WMA. WWF was engaged with the WMA in the past and provided monitoring and technical support.	
12. Resource management	2	There is active management undertaken by the customary landowners.	The butterfly farm needs funding to enable it to continue.
13a. Staff numbers	0	There are no paid staff working in the WMA.	
13b. Other people working on the protected area	3	High level of interest in community	
14. Training and skills	1	There is little or no training provided and skill levels are low.	A training needs assessment should be undertaken for a range of skill areas e.g. community development skills, office and computer skills, report and proposal writing.

Issue	Score (0,1,2,3, NA)	Comment	Next steps
15. Current budget	0	There is no budget to manage the WMA.	
16. Security of budget	0	There is no long term security for the budget.	
17. Management of budget	NA		
18. Equipment	1	There is some equipment, but this is insufficient to enable us to manage the WMA.	We need printer accessories and a solar system.
19. Maintenance of equipment	0	There is little equipment maintenance.	We need maintenance of the existing equipment e.g. printer and computer repairs.
20. Education and awareness	2	The WMA Chairman is constantly spreading the word about the WMA, but there is no formal education program.	We need to develop posters for community schools to increase understanding of the WMA and its values.
21. Planning for land use or marine activities	2	The adjacent land users take some account of the existence of the WMA and its values.	We need to increase the exposure of the WMA to ensure it has a high profile and is respected.
22. State and commercial neighbours	1	There is some contact with surrounding companies (e.g. Oil Search), but very little with CEPA.	We need greater consultation with Oil Search and government agencies emphasising the existence of Sulamesi WMA and the need to ensure more effective management outcomes.
23. Indigenous people/ Customary landowners	2	The customary landowners directly contribute to decision making concerning the WMA.	
24a. Impact on communities – communication	1	There is communication with some stakeholders.	
24b. Impact on communities – welfare programs	1	There are some community development programs.	
24c. Impact on communities – level of support	1	The customary landowners actively support the WMA.	
25. Economic benefit	0	The WMA does not deliver any economic benefits.	We need to identify a range of future potential income generating activities to enable improve management of the WMA.
26. Monitoring and evaluation	1	There is irregular, unplanned monitoring and no regular collection of results.	Need strategies to initiate a structured and regulated monitoring and evaluation program.
27. Visitor facilities	0	There are no visitor facilities.	Facilities may be needed if tourism expands in the WMA.
28. Commercial tourism operators	0	There is no contact with commercial tourist operators.	Should make contact with the Provincial tourism office and commercial tour operators office to publicise the extraordinary attractions of our WMA. Tourism is a potential income generating activity.
29. Fees	1	There are set fees. We need to organise a new s to our bank account so that f can be accessed.	
30. Condition of values	3	The condition of the values remains in very good condition.	
30a.Condition of values – basis of assessment	0	The assessment is not based on formal research and monitoring. However, it is based on traditional knowledge and engagement with the area.	

Issue	Score (0,1,2,3, NA)	Comment	Next steps
30b. Condition of values – threat abatement	0	There are no specific threat abatement plans in place.	
30c. Condition of values – routine management	0	There are no routine activities to maintain the values.	

Part 5: Condition and trends of protected area values

Table 7. Values, condition and trend

Key value	Condition Score	Trend Score	Information source and justification for Assessment and HOW the
(from Table 2)	(VG, G, F, P, DK)	(I, S, D, DK)	condition can be IMPROVED
Butterflies	VG	S	The state of the butterflies remains very good.
Animals and	VG	S	The plants and animals remain in a very good condition and there
plants			are few threats, other than over-hunting/fishing.
Mountains	VG	S	The mountains provide great scenery and spiritual values related to peace and tranquility and this is an important basis for ecotourism in the future.
Freshwater and waterfall	VG	S	The water supply is very good and there are few threats to this.
Cultural and traditions	VG	S	The cultural centre is good, although the solar system needs maintenance. There are cave paintings in very good condition – we need a sign board with information. The tambu hunting areas are in very good condition and also need to be signed.

Table 8. Recommendations and ways forward

1.	2.	3.
To improve the Sulamesi WMA's training	To empower the members of the	To promote our environment and
centre.	WMA Management Committee	community livelihood awareness program.
	to do community development	
	work within the Mt Bosavi area.	

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

	Challenges	
- the Chairman is committed	Generating funds to raise the standard of living as people want	
onservation within the WMA	to see some benefit from having and supporting the WMA.	
tage.		
- there are a significant	Poor or non-existent transport infrastructure which hinders a	
species and their habitat is in	range of income generating activities.	
dition.		
o road access helps to	Maintaining community support for the WMA as there appears	
s of the WMA.	to be little progress in attracting income generating projects and	
	peoples' attitudes to conservation may change.	
MA from customary land	Improving awareness and skills in the face of limited funds.	
level of awareness of the		
gnition of the ecological		
arger region (i.e. Kikori basin)		
ЛА is part of.		
	- the Chairman is committed onservation within the WMA tage there are a significant c species and their habitat is in dition. To road access helps to s of the WMA. MA from customary land level of awareness of the continuous of the ecological larger region (i.e. Kikori basin) MA is part of.	

References

Hitchcock P & Gabriel J 2015. World Heritage Tentative Listed Sites in Papua New Guinea: Report on a review of the sites, UNESCO, Government of PNG.

UNESCO 2006. Kikori River Basin/Great Papual Plateau. Available at: http://whc.unesco.org/en/tentativelists/5060/.

World Wildlife Fund 2006. Sulamesi. Available at: http://www.wwf.org.au/?2180/png-communities-protect-80000-hectares-of-rainforest.