Information Sheet on Ramsar Wetlands (RIS)– 2009-2012 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8thConference of the Contracting Parties(2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

- 1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands.* Compilers are strongly advised to read this guidance before filling in the RIS.
- 2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.
- 3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

James Albert A. Mendoza

Protected Area Superintendent, PPSRNP 350 Rizal Avenue Puerto Princesa City, Palawan Philippines 5300 (63)-908-875-8088 FOR OFFICE USE ONLY.



Designation date Site Reference Number

2. Date this sheet was completed/updated:

August 24, 2012

3. Country:

Republic of the Philippines

4.Name of the Ramsar site: (The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.)

Puerto Princesa Subterranean River National Park (PPSRNP)

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

a) Designation of a new Ramsarsite ☑ or

b) Updated information onan existing Ramsar site 🗆

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged: □ or
If the site boundary has changed:

i) the boundary has been delineated more accurately
i) the boundary has been extended
i) the boundary has been restricted**
□ and/or

If the site area has changed:

i) the area has been measured more accurately
□; or

ii) the area has been extended \Box : or

iii) the area has been reduced** \Box

** **Important note**: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

i) **a hard copy** (required for inclusion of site in the Ramsar List) ;

ii) an electronic format(e.g. a JPEG or ArcView image)

iii) a GIS file providing geo-referenced site boundary vectors and attribute tables \Box .

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The boundary is almost the same as Puerto Princesa Subterranean River National Park (PPSRNP). It is in the eastern boundary of Marufinas Bay, in the western boundary following the catchment boundary of the Cabayugan Catchment, and in the northern boundary along the shoreline facing St. Paul Bay.

8. Geographical coordinates(latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

10° 10 ' 00'' N 118 ° 55' 00'' E.

9. General location: Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

PPSRNP is found in the southwest most boundary of the Philippines, approximately 492 kilometers south of Manila, the political and economic capital of the Philippines. It lies in the mid-west coast of the island of Palawan, facing the Philippine West Sea and is located about 76 kilometres north of the City of Puerto Princesa. PPSRNP is within Region 4B MIMAROPA administrative region of the Philippines.

10. Elevation: (in metres: average and/or maximum & minimum)

From 0 to 1,038 meters above sea level (Mount Saint Paul).

11. Area: (in hectares)

The Puerto Princesa Subterranean River National Park has an area of 22,202 hectares.

12. General overview of the site: Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

PPSRNP was established in 1971 and represents the connectivity of ecosystems from the mountain-to-the sea. It features a limestone karst mountain landscape with one of the most complex cave or karstic system.

It has eight forest types namely, forest over ultramafic soil, forest over limestone, freshwater swamp forest, lowland evergreen tropical rainforest, montane forest, riverine forest, mangrove forest and beach forest It harbours about 800 plant and 233 animal species (165 bird species, 39 mammal species, 19 reptile species, 10 amphibian species). About 15 bird species endemic to Palawan, such as tabon scrub fowl (*Megapodius freycinet cumingii*) and Palawan peacock pheasant (*Polyplectron emphanum*) as well as threatened mammal such as sea cow (*Dugong dugon*), reptiles such as marine turtles (*Eretmochelys imbricata* and *Chelonia mydas*), and, migratory birds species such as Chinese Egret (*Egretta eulophotes*) and Nordmann's Greenshank (*Tringa guttifer*) are found in the Park.

The water coming from Cabayugan River that flows down the slopes of Mt. Bloomfield provides water to local communities for domestic and agricultural uses, before flowing towards the underground river.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.



14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1:

PPSRNP is unique within the Philippines biogeographic region because it connects a range of important ecosystems from the mountain-to-the sea. It features a limestone karst landscape around Mount Saint Paul with one of the most complex cave or karstic system. The Cabayugan River flows for 8.2 km underground with various formations of stalactites, stalagmites, and other speleogen, and with large underground chambers and tunnels. A distinguishing feature of the river is that it flows directly into the sea, with the lower half portion of a brackish river and subject to tidal influence. The site also supports about eight (8) forest types to include forest over ultramafic soil and limestone, freshwater swamp and old growth mangrove forests.

Species Name	English Name	IUCN Category	CMS Appendix	CITES Appendix	National List of Threatened Species			
Birds								
Egretta eulophotes	Chinese Egret	VU	Ι		VU			
Tringa guttifer	Nordmann's Greenshank	EN	Ι		EN			
Anthracoceros marchei	Palawan Hornbill	VU			VU			
Cacatua haematuropygia	Philippine cockatoo	CR		I, II	CR			
		Mammals						
Dugong dugon	Dugong	VU	II	I, II	CR			
Amblonyx cinereus	Oriental small clawed otter	VU						
Sus barbatus	Bearded pig	VU						
Arctictis binturong	Bearcat	VU		III	Threatened			
Acerodon leucotis	Palawan flying fox	VU		I, II	VU			
		Reptiles		1				
Eretmochelys imbricata	Hawksbill turtle	CR	Ι					
Chelonia mydas	Green sea turtle	EN	Ι	Ι	CR			
		Amphibian						
Barbourula busuangensis	Philippine flat- headed frog	VU			Threatened			

Criterion 2:

Criterion 3:

PPSRNP offers a mosaic of vegetation types, several of which are unique and others rarely found in other parts of the Philippines biogeographic region. For example, the lowland forest within the PPSRNP was noted by the World Wildlife Fund (WWF) in its Global 2000 report

as representative of the Palawan moist forest as having the "richest tree flora of Asia" with high levels of local and regional endemism.

PPSRNP is identified by the Birdlife International as one of the five Important Bird Area (IBA) in mainland Palawan and one of the seven Endemic Bird Area (EBA) of the Philippines (Mallari, 2001). A total of 195 bird species of the Park represent 67% of the total bird species of Palawan and 15 of which are endemic only to Palawan.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation): Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Indomalayan Biogeographical Realm, Philippines Biogeographic Province

b) biogeographic regionalisation scheme

Udvardy (1975)

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

The Cabayugan River runs underground for about 8 kilometres through a massive cave, flowing directly into the sea at St. Paul Bay. It comprises several natural landforms from flat plains and rolling hinterlands to hills and mountain peaks.

The hydrological features include Babuyan River with crystal blue water stretching along the eastern side of the Park. The main source of the Subterranean River is the Cabayugan River with several tributaries: Manturon Creek, Culiatan Creek, and other intermittent creeks within the Park vicinity.

Based on the Palawan State of the Environment 2009 Updates, the water quality of Cabayugan River was classified as Class D, which is suitable for agricultural and industrial purposes. However, the most recent data on water quality monitoring by the Environmental Management Bureau for the Cabayugan River and vicinities is not yet complete to satisfy the classification requirements as mandated by law.

PPSRNP is associated with marble and limestone mountains of which the most impressive is the geologically karst limestone mountain landscape of the St. Paul Mountain Range which is part of a series of limestone peaks aligned north south along the western coast of Palawan. It rises more than 1,000 meters at its peak and the karst is about 11 km long, averages 3-5 km wide and covers an area of around 35 sq/km. It is estimated to be between 16 – 20 million years old.

More than 90% of the Park is composed of sharp limestone ridges around the St. Paul Mountain Range. The cathedral-like cave includes formations of stalactites and stalagmites. There are several chambers of about 120m wide and 60m high.

The soils of PPSRNP are classified into three groups based on landscape and physiographical position: a) tropudals with tropepts consisting of entisols and aguents; b) tropuquents with

hydraguents which are comprised of inceptisols and tropepts; and c) mountain soils with entisols, ultisols and slfisols with thermic, hyperthermic and isohyperthermic temperature regimes.

Type I climate: pronounced dry season during the northeast monsoon from January to April and a distinct wet/ rainy season from May to December concurrent with the onset of the southwestern monsoon. Average annual precipitation is 1395.7 mm with November being the wettest (180.7 mm) and February, the driest (19.4 mm). The temperature ranges from 23.9 °C in January to 33.0 °C in April and with the average annual temperature of 28.2 °C.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

PPSRNP serves as a catchment to two important river systems, namely the Cabayugan River that flows down the slopes of Mt. Bloomfield, irrigating paddy farms before disappearing under Mt. St. Paul to become the Puerto Princesa Underground River, and the Babuyan River, which at 54 km is the longest river in Palawan. Cabayugan catchment, covering an area of 3,639.06 hectares, flows through five of the six sitios of Barangay (Town of) Cabayugan: sitios Sugod I, Sugod II. Centro, Manturon and part of sitio Tagnipa. The headwaters are emerging from Bentoan Peak of Mt. Bloomfield.

A distinguishing feature of the underground river is that it winds through a cave before flowing directly into the West Philippine Sea. The lower portion of the river is subject to tidal influence.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The hydrological values are as follows, among others:

- used for drinking water, agriculture (farming), ecotourism and recreation;
- water storage;
- surface water drainage from the catchment area;
- formation of underground karst features;
- source of livelihood of the community (i.e fishing, farming);
- serve as barrier against storm surge (mangrove)

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/co	oasta	al:	A •	<u>B</u> •	С•	D •	<u>E</u> •	<u>F</u> •	G•	Н•	<u>I</u> •	J	• K	•	Zł	(a)
Inland:	L	•	<u>M</u> •	<u>N</u> •	0•	P•	Q•	R •	Sp•	Ss•	Тр		Ts•	U	•	Va
	Vt	•	W•	Xf•	Xp•	Y •	Zg•	Zk(b)							

Human-made: $1 \cdot 2 \cdot 3 \cdot 4 \cdot 5 \cdot 6 \cdot 7 \cdot 8 \cdot 9 \cdot Zk(c)$

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

Zk(a) – Karst and other subterranean hydrological systems, marine/coastal

Zk(b) – Karst and other subterranean hydrological systems, inland

M - Permanent river; includes waterfalls

I -Intertidal forested wetland; includes mangrove swamps and freshwater swamp forests

Xf – Freshwater, tree-dominated wetlands

- B Marine subtidal aquatic beds
- 3 Irrigated lands
- E Sand, shingle or pebble shores
- F Estuarine waters
- Tp Permanent freshwater marshes/pools

20. General ecological features:(Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.)

PPSRNP depicts the connectivity of different ecosystems from mountain-to-the sea or from ridge to reef. It features a limestone karst mountain landscape with one of the most complex cave or karstic system. It has eight forest types namely, forest over ultramafic soil, forest over limestone, freshwater swamp forest, lowland evergreen tropical rainforest, montane forest, riverine forest, old growth mangrove forest and beach forest.

With this variety of ecosystems brings about 800 and 300 recorded plant and animal species respectively. Further, such ecosystems bring about water for domestic use and food to the lowland communities; aid for continuous formation of speleogem; enjoyment of people on the nature's wonder (ecotourism and recreation); and serve as buffer to strong typhoon.

21. Noteworthy flora: (Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Vegetation type include mangrove forest, beach forest or seacoast vegetation, freshwater swamp forest, semi-deciduous lowland forest, forest on ultramafic soil, montane and karst/ forest over limestone.

Two-thirds of the PPSRNP is natural forest dominated by apitong (*Dipterocarpus grandiflorus*), ipil (*Instia bijuga*) and other hardwood species. The lowland forests of the national park feature almost 35-meter canopy containing trees such as *Dracontomelon dao*, *Swintonia foxworthyi*, *Atuna racemosa*, *Diospyrus sp.*, *Pometia pinnata* which found are mostly on the edge of karst. The coastal forest is dominated by *Calophyllum inophyllum*,

Pometia pinnata and *Palaquium dubardii*, *Antidesma sp.*, *Sterculia sp.*, *Aglaia sp.*, and different species of orchids are also found in the limestone area.

22. Noteworthy fauna: (Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*)

PPSRNP has a total of 254 terrestrial vertebrate species recorded and the largest group is birds. Of special interest are the Palawan peacock pheasant *Polyplectron emphanum, and* Tabon scrubfowl *Megapodius cumingi*. Other animals recorded include 30 mammals, 19 reptiles and 10 amphibians which include the Palawan porcupine *Manis culionensis,* Reticulated python *Python reticulatus,* and Monitor lizard *Varanus salvator.*

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

paleontological/ archeological value: sea cow fossil estimated to be 20 million years ago was discovered in the underground river area

current socio-economic value: ecotourism (wildlife watching, caving, boating); agricultural activities like fishing, farming; harvesting of non-timber forest products

geological significance: karst and cave formations; discovered rare magnesium phosphate

b)Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box \Box and describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site: PPSRNP is a National Park. State-owned

b) in the surrounding area: Land classification in the surrounding areas - private land, state-owned.

25. Current land (including water) use:

a) within the Ramsar site: Protected area, agriculture, paddy farming, settlement, ecotourism, fishery

b) in the surroundings/catchment: Agricultural activities, fisheries, Non-timber forest products harvest areas, settlement areas, tourism development areas

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:

Unregulated entry of visitors and unchecked activities in the area brought about negative feedback from the visitors in the past as such improvements were made but now need regular monitoring and evaluation activities to check activities and apply adaptive management, if possible

b) in the surrounding area:

Effect of illegal cutting of trees by illegal loggers in the past is presently being experienced. The water of Cabayugan River is becoming murky due to erosion which if not stopped would affect the underground river

27. Conservation measures taken:

a)List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site: (In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.)

Puerto Princesa Subterranean River National Park (PPSRNP) is one of the protected areas under the National Integrated Protected Area System of the Philippines established through Presidential Proclamation No. 835 in 1971 and amended by Presidential Proclamation 212 in 1999. The recent Protected Area Suitability Assessment for PPSRNP recommended for the expansion of the boundaries of the PA to 23,387.971 has, which would include the watershed of Mt. Bloomfield and exclude some areas with settlements. It also proposed for the classification of the PA as a Natural Park. The map of the Ramsar Site is based on this proposed expansion.

Puerto Princesa Subterranean River National Park has the following titles:

- National Park in 1971 and area expanded in 1999
- Palawan Biosphere Reserve in 1990
- UNESCO World Heritage Site in 1999
- National Geological Site in 2003
- ASEAN Heritage Park in 2005
- New Seven Wonders of Nature in 2011
- Wetlands of International Importance (Ramsar Site) in 2012

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia \Box ; Ib \Box ; II \Box ; III \Box ; IV \Box ; V \Box ; VI \Box

c) Does an officially approved management plan exist; and is it being implemented?:

Yes, and with a plan to be updated.

d) Describe any other current management practices:

PPSRNP is managed by the Protected Area Management Board (PAMB) chaired by the City Mayor of Puerto Princesa with 17 members and representatives from the government (national and local) NGOs, and a Tribe Council.

The Park has a staff of about 50. It is supervised by a Protected Area Superintendent who is responsible for day to day operations and accountable to the PAMB. Eighty percent (80%) of the staff are from the surrounding local communities.

A Trust Fund was created for PPSRNP management purposes. All income generated from the collection of fees are deposited into the Trust and release of fund is guided by the PAMB based on approved management plan (Puerto Princesa City Government, 2010).

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Updating existing PPSRNP Management Plan Preparation of PPSRNP Legislation (House Bill) More researches about catchment area, hydrology, etc.

29. Current scientific research and facilities: e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Cave exploration – discovered extremely rare cave mineral, a manganese phosphate (still being analyzed in University of Bologna and University Modena in Italy)

- discovered a 20-million year old fossil of a sea cow embedded on the limestone wall
- continuously being done for other areas of the caves

Preliminary study on the Cause of Murkiness of Cabayugan River. Presently experiencing the effect of illegal tree cutting by illegal loggers in the past

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site: e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Tourist Information Center in Sabang – holding area for the visitors while waiting for the boat in going to the Puerto Princesa Underground River (PPUR). Information materials regarding the underground river are being provided such as fact sheets, brochures, etc.

The Information Center includes the Ethnographic Museum which exhibits the history and culture of the Batak and Tagbanua, two of the indigenous cultural groups present in the Park.

31. Current recreation and tourism: State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

PPSRNP is a major ecotourism destination of Puerto Princesa. Tourists are of general type or of all ages, More than 80% of arrivals are local tourists (from all over the country). In 2010, a total of 172,827 tourists visited the Park (148,760 local and 24,067 international tourists). In 2011 around 235,879 tourists visited the Park (197,783 local and 38,097 international tourists).

A community based sustainable ecotourism initiated by the Park Management is being done to actively involve the local communities in the management of the Park as well as to generate income. The different ecotourism activities are as follows, among others:

- Mountain hiking for those can endure the mountainous terrain, an alternative 5.3 km trail from Sabang to the entrance of the Underground River. The trail is designed to allow visitors to observe the different forest formations and wildlife species.
- The shoreline comprises some of the most pristine and beautiful beaches with cool and crystal waters which make them ideal for swimming and enjoying the sun.
- Sabang River cruise on board paddle boats to observe the PPSRNP mangrove forest and wildlife and appreciate an ecosystem free from human intervention. Visitors are also given a chance to be actively involved in mangrove enhancement.
- Paddled boats take visitors inside the Puerto Princesa Underground River (PPUR) for about 1 hour tour to appreciate the different rock formations as well as the bats and swiftlets that inhabit the cave
- Aside from the PPUR, the PPSRNP boasts a number of cave systems worth exploring like the Ugong Rock, Lions Cave, Daylight Hole and the Kawili Cave.

32. Jurisdiction: Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Territorial jurisdiction:	Palawan Council for Sustainable Development
Functional Jurisdiction:	City Government of Palawan

33. Management authority:Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

James Albert A. Mendoza

Protected Area Superintendent Puerto Princesa Subterranean River National Park 350 Rizal Avenue, Brgy. Bancao-bancao Puerto Princesa City, Palawan 5300 PHILIPPINES Mobile.: (+63)-908-875-8088 Fax: (+63)-48-434-2509 Email:jamas@puerto-undergroundriver.com

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Collar, Nigel et al., 1999. Threatened Birds of the Philippines. Bookmark, Makati City, Philippines. 600p.

Department of Environment and Natural Resources – Protected Areas and Wildlife Bureau, 2005. UNEP/GEF Project: Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand – Philippines National Report on Wetlands. Quezon City, Philippines. 72-73p.

Department Administrative Order No. 2004-14. Establishing the List of Terrestrial Threatened Species and Thrie Categories, and the List of Other Wildlife Species Pursuant to Republic Act No. 9147 otherwise known as the Wildlife Resources Conservation and Protection Act of 2001.

Management Plan of Puerto Princesa Subterranean River National Park. 2000.

Mallari, N. et al., 2005. Key Conservation Sites in the Philippines. Bookmark, Makati City, Philippines. 485p

Palawan Council for Sustainable Development (PCSD). 2010. Palawan State of the Environment 2009 updates. A report by the PCSD and the PCSD Staff (PCSDS) through its Environmental Monitoring and Evaluation System. 54 pp.

Palawan Tropical Forestry Protection Programme. 1999. Cabayugan Catchment Management Plan. July 1999.

Puerto Princesa City Government.2010. Official Website of Puerto Princesa Underground River. http://www.puerto-undergroundriver.com/management/.

Udvardy, M.D.F. 1975. A Classification of the Biogeographical Provinces of the World. IUCN Occasional Paper No. 18. Prepared for the UNESCO's Man and the Biosphere Programme. 50 pp.

Villalon, A. The Nomination Dossier for St Paul Subterranean River National Park for inclusion in the World Heritage List.

www.weatheronline.co.uk/weather/map www.whc.unesco.org/en/criteria/ www.worldheritagesite.org/sites/puertoprincesa.html www.newsinfo.inquirer.net/96927/rare-mineral-found-in-underground-river www.keylynb.hubpages.com/hub/UNESCO-Natural-World-Heritage-Sites-of-the-Philippines