

File Name: 652rev.pdf

UNESCO Region: ASIA AND THE PACIFIC

---

**SITE NAME:** Puerto-Princesa Subterranean River National Park

**DATE OF INSCRIPTION:** 4<sup>th</sup> December 1999

**STATE PARTY:** Philippines

**CRITERIA:** N (iii) (iv)

**DECISION OF THE WORLD HERITAGE COMMITTEE:**

Excerpt from the Report of the 23<sup>rd</sup> Session of the World Heritage Committee

The Puerto Princesa Subterranean River National Park features a spectacular limestone karst landscape with its underground river.

A distinguishing feature of the river is that it flows directly into the sea, and the lower portion of the river is subject to tidal influences.

The area also represents a significant habitat for biodiversity conservation. The site contains a full mountain to the sea ecosystem and protects forests, which are among the most significant in Asia.

The Committee decided to inscribe the site under natural criteria (iii) and (iv). It also commended the Government of the Philippines for the consultative process undertaken with relevant authorities, specially with the affected Barangays and for their approaches to integrated regional land use planning which aim to ensure that the World Heritage values of the site are maintained.

The Observer of the Philippines informed the Committee that a tourism development plan would be provided shortly.

**BRIEF DESCRIPTIONS**

The Puerto-Princesa Subterranean River National Park features a spectacular limestone karst landscape with its underground river. A distinguishing feature of the river is that it emerges directly into the sea, and the lower portion of the river is subject to tidal influences. The area also represents a significant habitat for biodiversity conservation. The site contains a full "mountain-to-the-sea" ecosystem and protects some of the most significant forests in Asia.

---

**1.b State, Province or Region:** Palawan Province

**1.d Exact location:** 10° 10' N, 118° 55' E



ST. PAUL SUBTERRANEAN RIVER NATIONAL PARK, PHILIPPINES

# NOMINATION DOSSIER

THE NOMINATION DOSSIER FOR  
SAINT PAUL SUBTERRANEAN RIVER NATIONAL PARK

PREPARED BY AUGUSTO F VILLALÓN

WITH THE PARTICIPATION OF

MAYOR EDWARD S HAGEDORN  
CITY OF PUERTO PRINCESA, PALAWAN

SECRETARY GENERAL LOURDES R QUISUMBING  
UNESCO NATIONAL COMMISSION OF THE PHILIPPINES

UNDERSECRETARY ROSARIO G MANALO  
DEPARTMENT OF FOREIGN AFFAIRS

GRIZELDA MAYO-ANDA  
GRAHAM BELL  
OFELIA BERNARDINO  
ROGELIO DAQUER  
MIGUEL FORTÉS  
ANGELITA MENIADO  
PATRICK ROGERS  
RICARDO SANDALO

AND THE ASSISTANCE OF

PALAWAN TROPICAL FOREST PROTECTION PROGRAMME  
PROTECTED AREAS MANAGEMENT BOARD  
PROTECTED AREAS AND WILDLIFE BUREAU  
SAINT PAUL SUBTERRANEAN RIVER NATIONAL PARK  
UNESCO NATIONAL COMMISSION OF THE PHILIPPINES

# NOMINATION OF PROPERTIES FOR INCLUSION IN THE WORLD HERITAGE LIST

## 1. IDENTIFICATION OF THE PROPERTY

a) Country:

Philippines

b) Province:

Palawan

c) Municipality:

City of Puerto Princesa

d) Name of Property:

SAINT PAUL SUBTERRANEAN RIVER NATIONAL PARK

e) Exact location on Map:

Geographic coordinates: 10° 10' N, 118° 55' E

List of Maps:

Map 1: Location Map (Southeast Asia)

Map 2: East Asian Growth Area

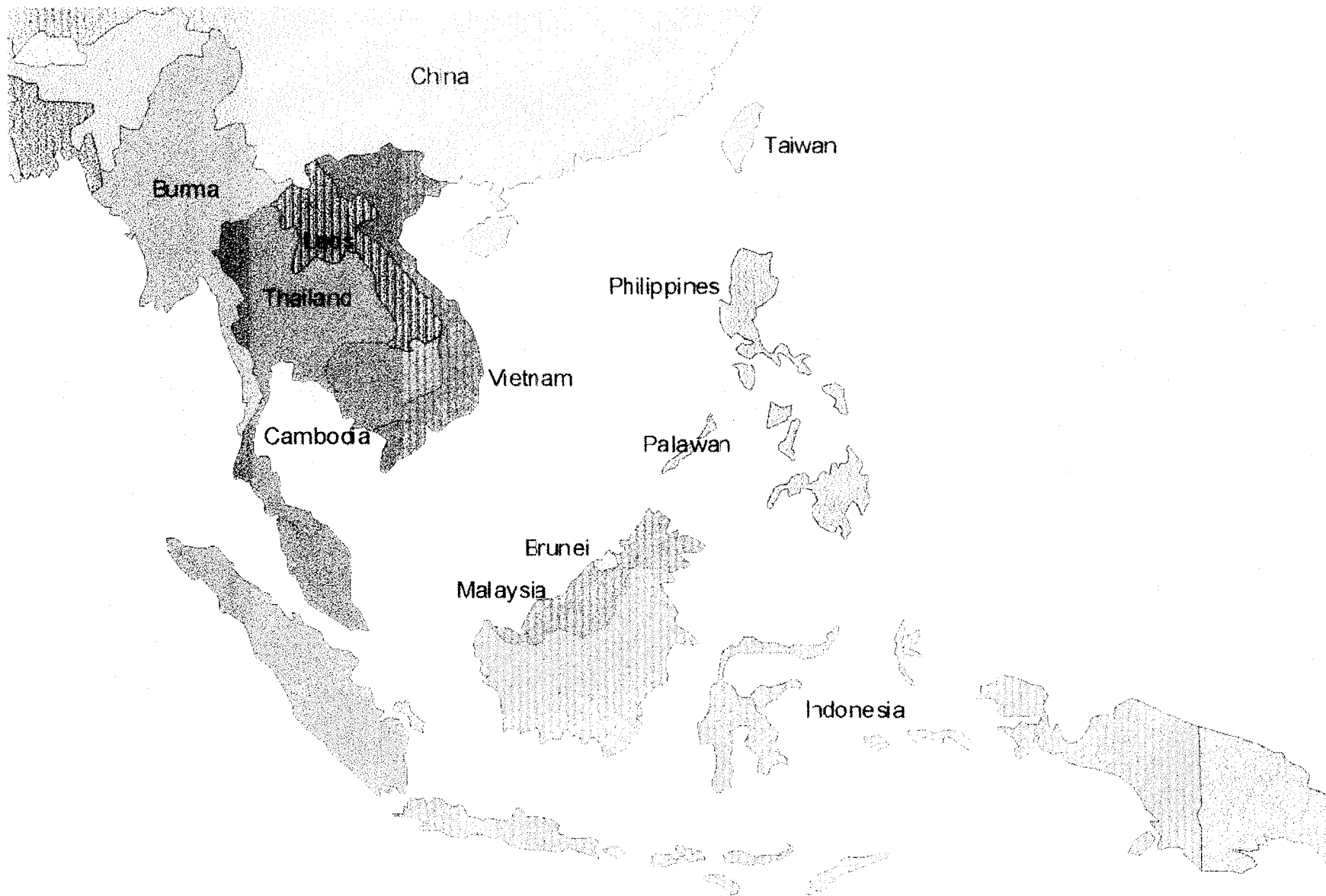
Map 3: Map of the Philippines indicating the location  
of Palawan Island

Map 4: City of Puerto Princesa, juridical boundaries

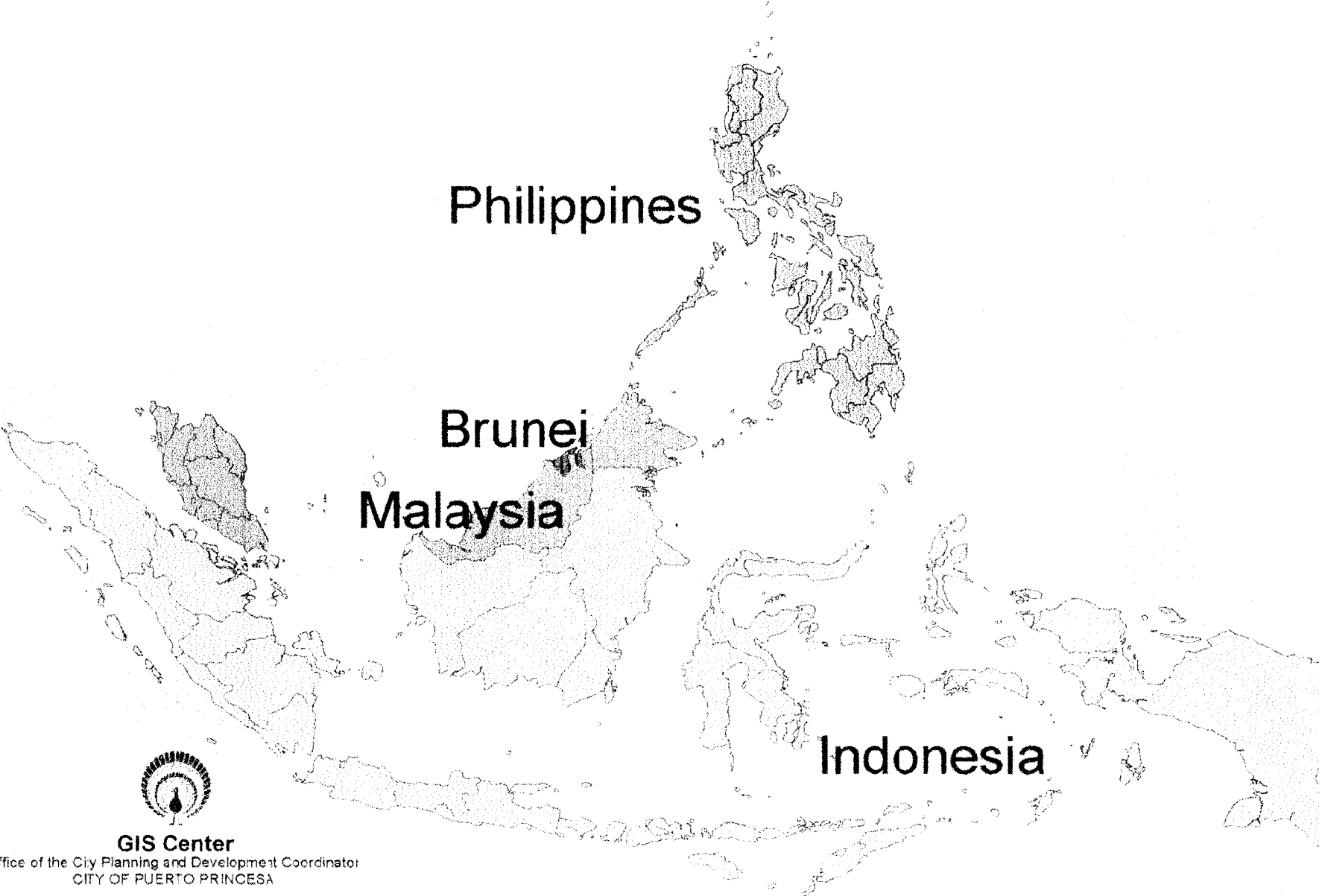
Map 5: Boundaries as expanded in 1998 for the Saint  
Paul Subterranean River National Park  
(SPSRNP)

Map 6: Core Area, original boundaries of Saint Paul  
Subterranean River National Park (area  
originally proposed for World Heritage listing)  
showing the first boundary and the revised  
boundary following the Babuyan River

# LOCATION MAP (Southeast Asia)



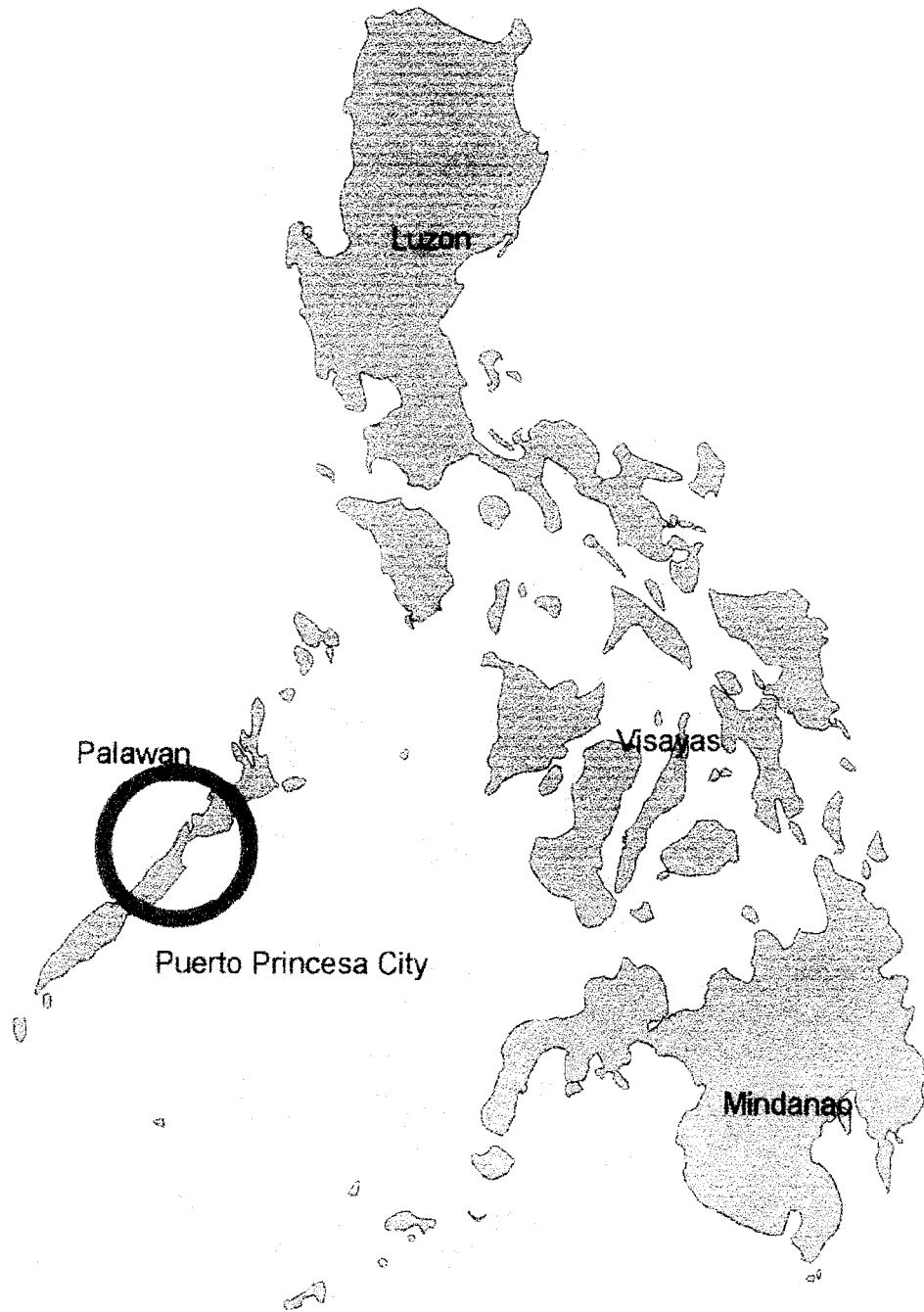
# East Asean Growth Area Map



**GIS Center**

Office of the City Planning and Development Coordinator  
CITY OF PUERTO PRINCESA

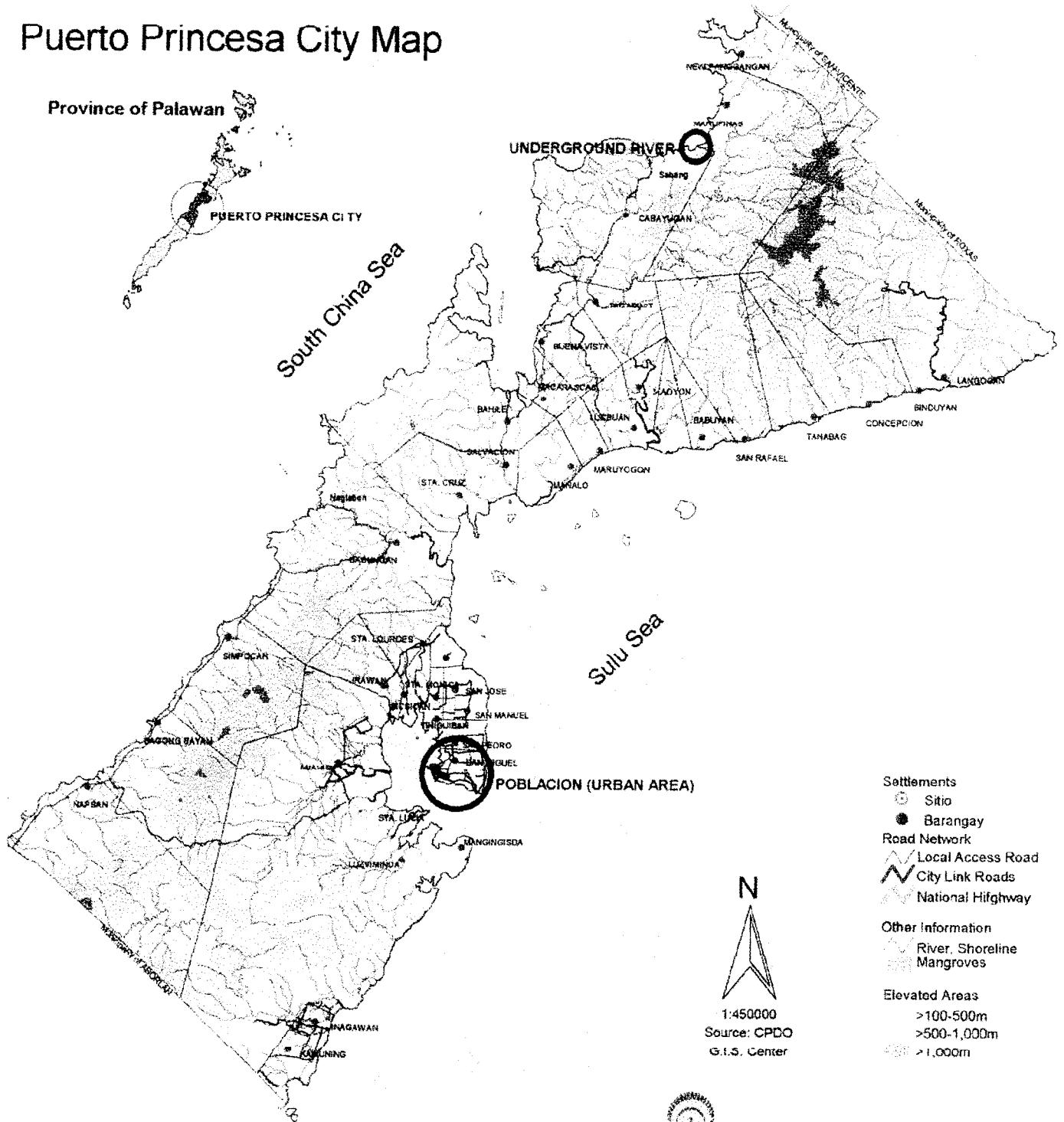
# PHILIPPINES



**GIS Center**

Office of the City Planning and Development Coordinator  
CITY OF PUERTO PRINCESA

# Puerto Princesa City Map

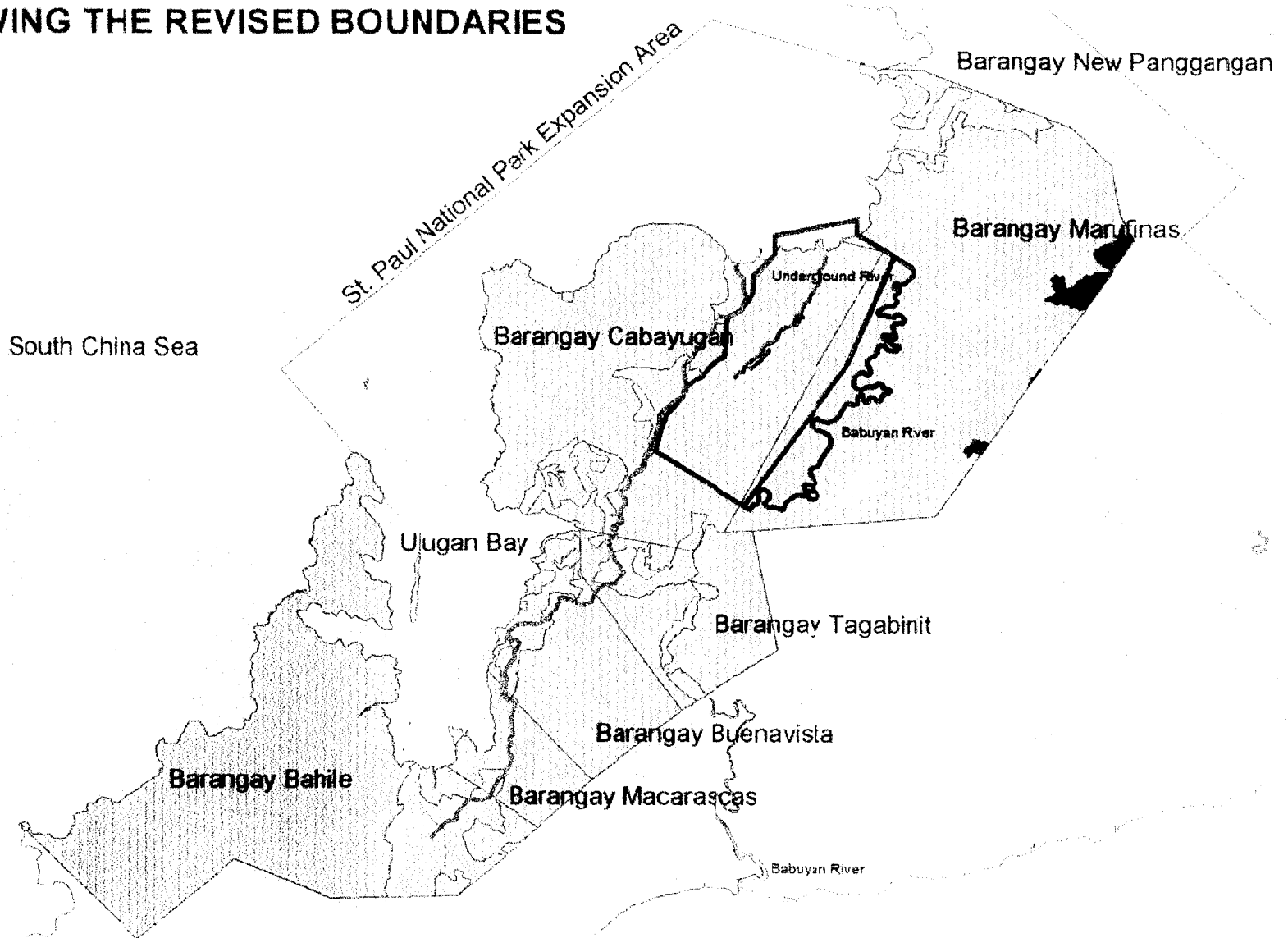


**City Government of Puerto Princesa - CPDO - January 1998**

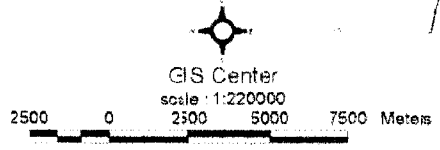
Land Area : 2,600,533,292 sq. kms.  
 Barangays : 68 Barangays (35 Urban and 31 Rural)  
 Population : 129,577 (93,951 for Urban and 35,626 for Rural)



# MAP SHOWING THE REVISED BOUNDARIES

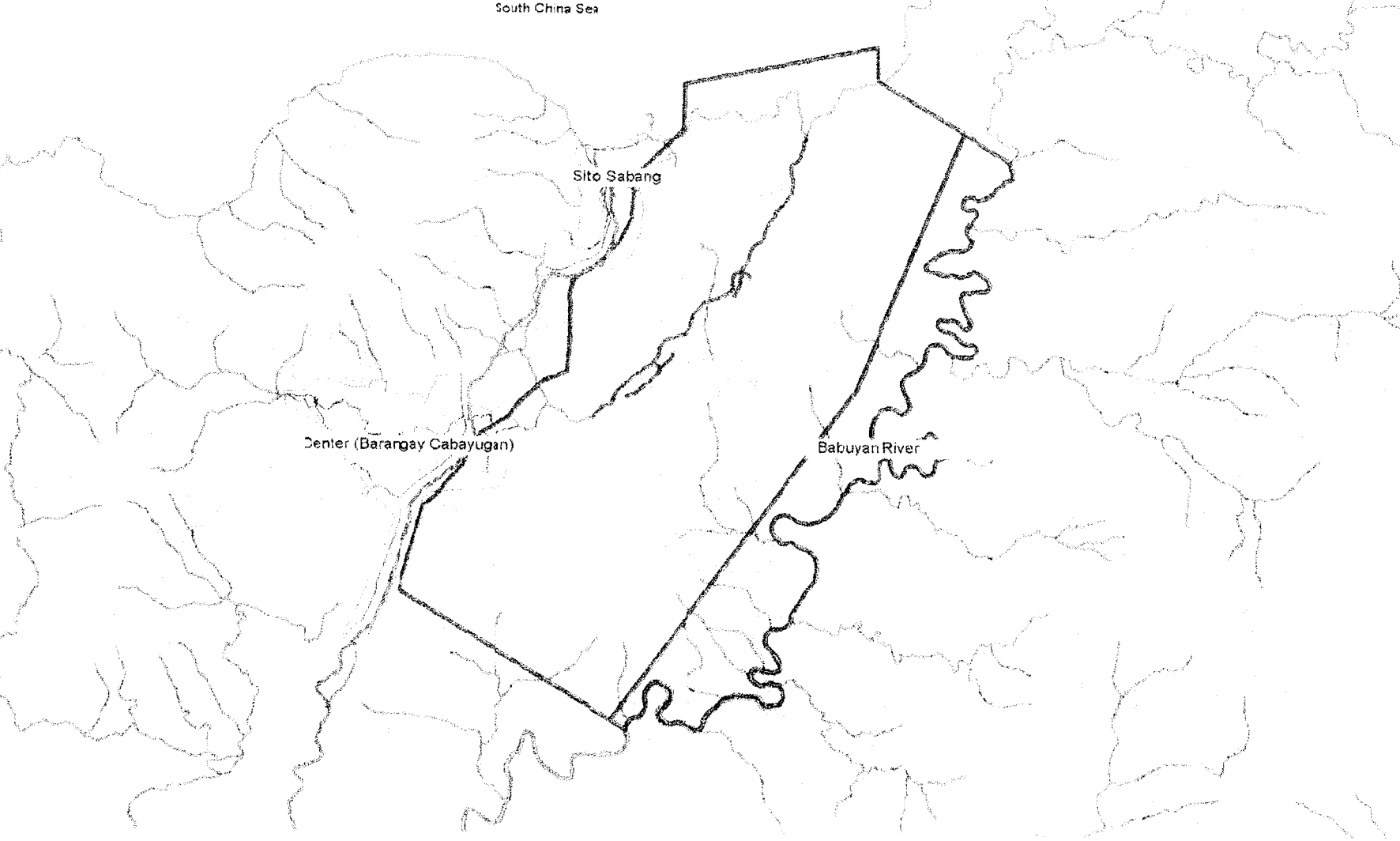


- Sea expansion
- Bahile - Sabang Road
- SP boundary (Existing)
- Existing SP Boundary
- Underground River
- Core zone
- Alienable and Disposable Land
- Buffer Zone
- Coast

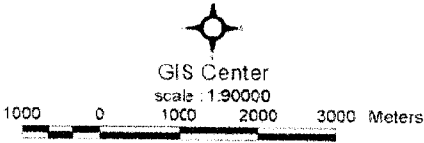


Office of the City Planning and Development Coordinator  
City of Puerto Princesa

# Saint Paul Subterranean River National Park (Existing)



- Bahile - Sabang Road
- Existing Boundary
- Alienable and Disposable Land
- Rivers/creek
- Underground River
- Contours of Northwest head (by 100m interval)
- Contours of Cabayugan (by 100m interval)
- Coastline



Office of the City Planning and Development Coordinator  
City of Puerto Princesa

Saint Paul Subterranean River National Park (SPSRNP) is located in the Saint Paul Mountain Range. It is 81 kilometers northwest from the center of the City of Puerto Princesa, the capital of Palawan province. The Park lies completely within the territorial jurisdiction of the city government. The Core Area of the property is specifically located at Sitios (village) Cayasan, Sabang, and Odiongan in the Barangays (townships) Cabayugan, Tagabinet, and Marufinas.

The expanded boundaries of the Park are: North , Barangay New Panggan; East, Marufinas; West, Cabayugan; South, Tagabinet, Tagabinit, Buenavista Macarascas and Bahile.

The Subterranean River is reached after a two-hour drive on an unpaved road from Puerto Princesa. There is an alternate route, a three hour outrigger boat ride from Barangay Bahile (approximately an hour's travel from the city center over the same unpaved road) through Ulugan Bay.

Getting to the Park is not easy. However, the difficulty does not prevent a steady stream of visitors who look at the hardship as a challenge to be endured. Experiencing the grandeur of the Subterranean River is a fitting reward.

Puerto Princesa, on Palawan Island, is 306 nautical miles southwest of Manila. It is a one-hour flight from Manila and is linked by air to the major cities of the country. It is also easily accessible by regularly scheduled sea transport routes.

f) Area of Property Proposed for Inscription

The Philippine government nominated Saint Paul Subterranean River National Park for inscription to the World Heritage List in 1991<sup>1</sup>. Although the IUCN

---

<sup>1</sup> Annex 1: Nomination Dossier for Saint Paul Subterranean River National Park, 1991

Technical Evaluation<sup>2</sup> for the site stated that “It [Saint Paul Subterranean River National Park] therefore meets criterion (iii) as a site with a spectacular karst landscape including its subterranean river and caves, and criterion (iv) with its habitat for many rare and endemic species.”

However, despite the site’s having met two criteria for inscription, IUCN recommended that the size of the Park be increased to improve the sustainability of the Subterranean River in order that it would result in a much more viable conservation unit.

Therefore, at its 17<sup>th</sup> Session held at Cartagena de Indias in Colombia in 1993, the World Heritage Committee took note of the IUCN recommendation referred the nomination back to the Philippine authorities with the request for them to comply with the recommendation.

The City Government of Puerto Princesa, the Philippine authority with jurisdiction over the site, complied with the recommendation, enlarging the area of Saint Paul Subterranean River National Park. Designating the original 5,753 hectares<sup>3</sup> of Park area as the Core Area, to assure its protection, an additional Buffer Zone area of approximately 33,000 hectares<sup>4</sup> was added to the Park.

Before finalizing the expanded Park boundaries, the various tribal landowners within the Certificate of Ancestral Domain Claims<sup>5</sup> (CADC) resolved to include their land in the expanded Park boundary. The first consultation took place on 04-05 December 1997 at the “Saint Paul Subterranean River National

---

<sup>2</sup> Annex 2: Thorsell, Jim. 1993. *World Heritage Nomination - IUCN Technical Evaluation No. 652, St Paul Subterranean River National Park, Philippines.*

<sup>3</sup> Annex 3: Republic Act 826 and Proclamation 835

<sup>4</sup> Annex 4: Proclamation increasing boundaries of park

<sup>5</sup> Annex 5: Republic Act No. 8371, “An Act to Recognize, Protect and Promote the Rights of Indigenous Cultural Communities”

Park Renomination Forum and Workshop"<sup>6</sup> sponsored by the Unesco National Commission of the Philippines. The agreement was reached after a series of joint consultations<sup>7</sup> with the stakeholders led by the Mayor of Puerto Princesa and participated in by, the city and Park officials, the Unesco National Commission of the Philippines, representatives of the various NGO's actively involved in the enlarged Park boundary.

The expanded area includes the watershed area for the Subterranean River that is located at the base of Mount Bloomfield in Barangay Cabayugan to the west of the River, assuring the protection of its water source. The expanded area strengthens the bioecological connection of Saint Paul Cave and the Subterranean River with its surroundings, providing a larger support base for the adequate protection and management of the flora and fauna, the mountains, coastal forests, coral reefs, and safeguarding the magnificent landscape of the Park. The expanded area not only assures the continued maintenance of a support zone, it provides an adequate buffer zone for the Subterranean River that encompasses the five Barangays that ring the Underground River site: Marufinas, Tagabinit, Buenavista, Macarascas, Bahile, and Cabayugan.

Ulugan Bay<sup>8</sup> has an area of 7,200 hectares at mean low tide with 110 kilometers of coastline, 1,000 hectares of coral reefs, 885 hectares of mangroves, 743 hectares of mud, 2,348 hectares of sand and mud, and 2,043 hectares of deep water. In addition, other coastal ecosystems (e.g. seagrass beds, soft bottom communities, maritime forest, emergent vegetation) serve as the base of the livelihood of 2,000 of the 3,130 residents living in the 5 barangays surrounding the

---

<sup>6</sup> Annex 6: Final Report, St Paul Subterranean River National Park Renomination Forum and Workshop, 04-05 December 1997, Puerto Princesa City

<sup>7</sup> Annex 7: Resolutions from Stakeholder Consultations

<sup>8</sup> Annex 8: Walters, J. S., 1996. Coastal area profile Ulugan Bay, Palawan, USAid/Silliman University Report, 47p +, PIDS 1995

bay: Bahile, Macarascas, Buenavista, Tagnipa, and Cabayugan. Over 10 rivers empty into the bay. In the south are the Bahile, Baruang, Sia, and Eddasen Rivers; on the eastern side are the Kamangiei, Banog, Otaban, and Tagnipa Rivers. While on the western side are the Tarunayan and Kayola Rivers. Its topography is hilly to mountainous, with several crests higher than 300 meters within 3 kilometers of the shore.

## 2. JUSTIFICATION FOR INSCRIPTION

### a) Statement of Significance

The existing ecosystem at the Core Area of the Saint Paul Subterranean River National Park and in its Buffer Zone is exceptional. It is a primeval area with the Subterranean River and its caves and galleries as the most outstanding feature.

The floral and faunal features are moderately diverse and steep limestone peaks heighten its natural appeal. A marine extension of the park is an important feature that adds to the overall value of the natural setting<sup>9</sup>. Its landscape is outstanding, combining sweeping coastal views with the karst mountains and the rice paddies on the rolling land. Rich natural vegetation and forest link the coast to the mountains.

Saint Paul Cave is unique for the amount and variety of fauna that the site supports. The daily movement the thousands of swiftlets that live in the cave, leaving to feed and returning to the cave passages and chambers, is an outstanding sight. Their audible echolocation causes an incredible din. Curiously, no swiftlets' nests exist within the cave. They appear to nest on the floor or may nest in still undiscovered chambers. A great number of bats share the cave with the swiftlets. Some of the large chambers have slopes of guano. The invertebrate fauna is abundantly

---

<sup>9</sup> Thorsell, 1993

represented, with insects and arachnids the most conspicuous, particularly the giant spiders, cave crickets, and a type of centipede. The fresh water fauna includes fishes, eels, and phosphorescent crustacea.

The size of the cave is vast. Its waterway is tidal up to a point located 4.3 km from the mouth, called the "Rock Pile." Along this stretch there are no waterfalls, bars, etc. to surmount on the way from one end of the cave to the other. However, it seems there is a flow of fresh water, possibly much more obvious in the wet season. The total length of the cave from the inlet to the mouth is 8.4 km.

The forests that surround the cave and its Buffer Zone are vast and are among the few remaining examples of unspoiled forest existing in the Philippines.

Ulugan Bay enhances the Saint Paul Subterranean National Park area. It has around 1,000 hectares of coral reef. About >80% are with dead coral cover. Live coral cover averages 25% (cover = percentage of area covered by a particular class over a 50 meter transect). There are 41 species of corals. Non-*Acropora* corals especially *Porites* are dominant. The only coral considered rare in the bay is *Cyanarina*, which is associated with poor light conditions and muddy substrate.

The mangrove areas around Ulugan Bay are still pristine, containing unique, rare and superlative tree formations, creating areas of exceptional beauty, nurturing the endangered bats. The latter, in thousands, and as a daily spectacle, soar the sky at dusk, coming from the mangroves where they feast on the flowers, and go back to the caves of the Subterranean River.

b) Possible Comparative Analysis

For the continuance of ecological conservation in the Philippines, Palawan is considered the 'Last Frontier.' Most of the remaining areas in the country have been deforested. Most of the other forested areas, even if protected, are under severe threat. The Environmental Legal Assistance Center (ELAC) of Puerto Princesa says that "In 1903, there were more than 21 million hectares of forest in the Philippines, or more than half of the country's total area. Today, less than 6 million hectares of forest are left. In 1994, there were only 800,000 hectares of old growth forest left."

Although there are similar sites in the country, particularly the Callao Cave in northern Philippines, there is excellent assurance that Saint Paul Subterranean National Park will be better and more conscientiously maintained and protected than other nationally protected areas due to many positive factors: the vigorous Park management programs that are currently in place; the commitment of local citizens to guard the environment of Palawan; and most importantly, the political will of the City Government of Puerto Princesa to conserve its ecological resources.

In spite of similar sites in the country, the Park and its Buffer Zone are of particular importance to the Philippines. It serves as the primary and only model of the sustainable management of ecological resources undertaken by a local government unit with the assistance of a Protected Area Management Board, in full compliance with the Republic Act 7586, the National Integrated Protected Areas System (NIPAS)<sup>10</sup> Act.

Within the Buffer Zone area, the mangroves found at Ulugan Bay are the only ones of its kind in the

---

<sup>10</sup> Annex 9: National Integrated Protected Area System Act



Philippines today<sup>11</sup>. While there are a few areas where mangroves may be more abundant per unit area, these are of the secondary type of forest. That of Ulugan Bay is largely of the primary type, giving people a glimpse of the conditions of the past, of the last 200-300 years.

Dr. Fortes continues to affirm, "It is the deep embayment which is largely responsible for the current ecological condition of the coastal ecosystems in Ulugan Bay. This the best that nature could provide to ensure the lush growth and abundance of the trees and their associated plants and animals. Being a muddy mangrove area, however, makes the place generally less attractive to most other people, especially to tourists who choose sandy white beaches and pristine rainforests for their activities. With fewer people, the place and its resources have remained relatively undisturbed, although a few years ago, cutting of trees was rampant due to the high demand of wood chips and firewood from both local and international markets. This prompted the government to impose a nation-wide ban on mangrove cutting. Because of its strategic location in relation to the national security of the western part of the country, the use of the Bay as a temporary Naval Station has been in part responsible for the reduced illegal activities in the Bay."

c) Authenticity/Integrity

The uniqueness of the mangrove forests in the Bay, coupled with the flora and fauna with equal conservation values which they harbor, and their bioecological connection with the caves and trees of the surrounding forests prove that the site contains the local key interrelated and interdependent elements in their natural relationships (Criterion i).

The expansion of the Park area increases the advantages for the entire protected area. This could

---

<sup>11</sup> From an interview with Dr Miguel Fortes, University of the Philippines

be in the form of support in meeting with the World Heritage criteria and in the logistics towards its effective management, with an end in view of improving the quality of life of the stakeholders. (Criterion ii).

With the expanded Park area, the surroundings of the Subterranean River, mostly still existing in an unspoiled condition today and extremely essential to its integrity, are now within the protected area. The Management Plan of the Park can now safeguard the Babuyan River catchment that still contains more or less virgin lowlands of high biodiversity that is under severe threat from human activity<sup>12</sup>. The outstanding landscape found in the Park and the Subterranean River makes it a world-class destination (Criterion iii).

d) Criteria Under Which Inscription is Proposed

*Criterion (i): Outstanding examples representing the major stages of the earth's revolutionary history.* Palawan lies on the Sunda Shelf, and was a former land bridge between Borneo and Luzon, the principal island of the Philippine archipelago. Since it once served as a migration bridge, Palawan shares close biological affinities with Borneo and has a high level of endemism, much of which is visible within the Park boundaries.

*Criterion (ii): Outstanding examples representing significant ongoing geological processes, and biological evolution.* According to Dr. Tim Whitmore of Cambridge University (whom PTFPP commissioned in 1996 to prepare a Research Programme for the Park), there are seven forest formations within the Park, in which "all the dry land lowland forest formations and the two main montane forest formations of the tropical Far East are represented except heath forest, and all the wetland types except peat swamp forest." The forest

---

<sup>12</sup> from an interview with Dr Patrick Rogers, Management Planner, EC-PTFPP Project

formation on dry land present in the Park are: limestone hill forest, beach forest, forest on ultrabasic rocks, lowland evergreen rainforest, and the montane rane forests. Meanwhile, the forest formation of wet land present in the Park are mangrove forest, and the freshwater permanent swamp forest and periodic swamp forest.

*Criterion (iii): Contain unique, rare, or superlative natural phenomena, formations, or features or areas of exceptional beauty.* Saint Paul Mountain Range features a spectacular limestone karst landscape set off by rice paddies on the rolling land at the base of the cliffs. The most significant is the 8-kilometer long underground river with its impressive stalactite and stalagmite formations, large underground chambers, and tunnels. Abundant swiftlets, bats, and a number of previously unrecorded species inhabit the chambers.

### 3. DESCRIPTION

#### a) Description of Property

The most unique among the many superlative geological features of the Park is the 8.2-kilometer long Subterranean River that is claimed to be among the longest in the world.

Historically, the Subterranean River has always aroused much curiosity. Even as early as 1850, Commander Bate<sup>13</sup> of the English Navy reconnoitered on the island of Paragua (Palawan) on the Corvette 'Royalist', giving names like Mount Saint Paul. The American Insular government in the Philippines was also very interested in the site.

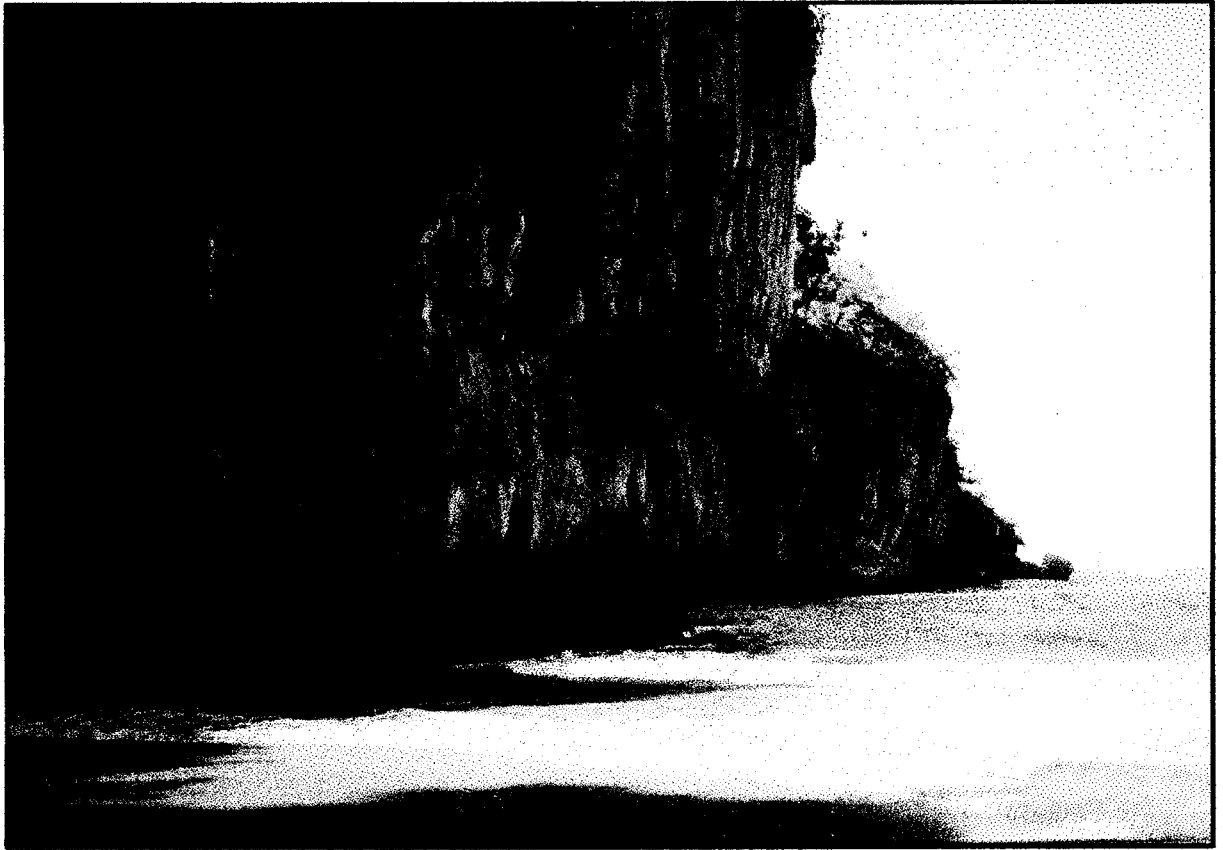
Among the earliest descriptions was made in 1911<sup>14</sup>, "During the first decade of the 20<sup>th</sup> century, the American government commissioned extensive

<sup>13</sup> Worcester, Dean C. 1911. From the *Diliman Review*, Vol. 36, No. 2, p. 28 +

<sup>14</sup> Worcester, 1911



Saint Paul Bay



**Entrance to the Underground River**





Entrance to the Underground River



topographic and hydrographic surveys of the Philippine archipelago. A special party surveyed the Subterranean River, composed of two officers of the Coast and Geodetic Survey, the Insular Secretary of Commerce and Police with his private secretary, the Director of the Bureau of Science and his official photographer, the Insular Auditor, and the Vice-Governor of Palawan. They reached Saint Paul Bay on the 1<sup>st</sup> of October 1911.

"The survey team measured the lagoon (or cove) to be approximately 120 meters long and 25 to 30 meters long, with a depth of 2 to 3 meters. The river emptied into the upper end of the cove through an irregular, arched opening, 6 or 7 meters high and roughly three times that in width at the base of the vertical cliff.

"The survey was conducted on the ship's boats that were able to reach approximately 4 kilometers from the mouth of the stream where the channel was found to be entirely blocked by a small pool, bounded on the right by a solid rock wall, and on the left by a pile of boulders and loose debris perhaps 12 meters in height, which had obviously fallen from the roof. The height of the roof varied from about 6 to 15 meters, increasing in individual chambers to as much as 30 meters. Over the fallen rock wall that obstructed the passage, the roof was perhaps 40 meters above the stream. The width of the cavern also varied from 10 to 20 meters in lower stretches, to 50 or 60 meters in the more irregular upper sections.

"The stream in general filled the entire cavern between usually straight walls and there was no navigable side openings of any importance," continued the report. "The water, fresh and at the time of the survey was flowing in a gentle current, hardly exceeding one half mile an hour." The rock specimens were said to be "limestone of fine-grained crypto-crystal line character."

For comparative purposes, two more recent descriptions of the site are included and attached as

Annexes to this document. The first is a 1980 description of Saint Paul Cave and the Subterranean River from the *Journal of the Sydney Speleological Society*<sup>15</sup>. The second, written in 1991 and updated in 1994, is published in *Speleologia 31* the "Report of the Scientific Expedition, Palawan '91"<sup>16</sup>, conducted by the Italian Speleological Team with participation of the Saint Paul Subterranean River National Park, the Debt-for-Nature Swap Program, the Philippine Department of Environment and Natural Resources.

Saint Paul Subterranean River National Park consists of various landforms, the most impressive of which is the limestone that forms the karst mountain landscape of the Saint Paul Mountain Range. The elevations within the Park range from sea level to 1,028 meters. The topography varies from flat plains to rolling hinterlands and hills to mountain peaks. Mountains are characterized by a juvenile topography. The ridges and mountaintops are equally pronounced and the slopes are precipitous.

The soils of the Park are classified into three main groups based on landscape and physiographical position: (a) tropudalfs with tropepts consisting of entisols and aguments; (b) tropuquents with hydraguments which are comprised of inceptisols and tropepts; and (c) mountain soils with entisols, ultisols and alfisols with thermic, hyperthermic, and isohyperthermic temperature regimes. The entisols are soils without pedogenic horizons, either usually wet, usually moist, or usually dry white aguments are seasonally or perennially wet. The inceptisols are soils with pedogenic horizons of alteration or concentration but without accumulation of translocated materials other than carbonates or silica, usually moist or moist for 90 consecutive days during a period when temperature is suitable for plant

---

<sup>15</sup> Annex 10: Detailed description of Saint Paul Cave by Tom Hayllar from the *Journal of the Sydney Speleological Society*, 1980. Vol. 24, No. 7, pp. 153-158

<sup>16</sup> Annex 11: Report of "Palawan '91" Expedition, from *Speleologia 31*, 1994



growth. The tropics are continuously warm or hot and usually moist.

The prevailing climate at the Park falls under Type I and Type III climate zones. Type I has two pronounced seasons: dry and wet. The dry season lasts from three to six months and the wet season from June to September. The annual rainfall averages from 2,000 - 3,000 millimeters annually. The Park has an average temperature of 27°C. Its annual precipitation is 2,000 millimeters.

Hydrological features include the Babuyan River with crystal blue water stretching along the eastern side of the Park. It has white sandy beaches. The basin at Orange Creek is almost 100 meters above sea level. 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.

Above the Subterranean River are gigantic mountains of limestone formations, formed with metamorphic rock process due to exposure to natural elements. Two thirds of the area is covered with tropical rain forest that extends from the shoreline to the highest point of approximately 1,028 meters above sea level. One third comprises the mountain rock or karst.

The forest vegetation of the Park is divided into three categories: lowland, karst, and coastal.

Two thirds of the Park is a natural forest dominated by *Dipterocarpus grandiflora* (apitong), *Intsia bijuga* (ipil), and other hardwood species. In lowland forests, large tree species such as *Drancontomelon dao*, *Swintonia foxworthii*, *Atuna racemosa*, *Diospyrus sp.*, *Epiphytes* and *lithophytes* can be found in the limestone pockets. In the karst forest, species found are *Antidesma sp.*, *Dypterus sp.*, *Sterculia sp.*, and *Pipturus sp.*, including largest

lianas *Strophantus sp.*, *Marillana sp.*, and *Champersia sp.*

The extensive rainforest of the Park is the habitat to diverse endemic and endangered species of flora and fauna. Animals that inhabit the Park are the Palawan bearcat, porcupines, skunks, wild pigs, flying squirrels, rats, bats, and monkeys. Cave-inhabiting forms of reptiles, birds and mammals dominate the animals in the Park. The reptiles include snakes, monitor lizards, Philippine crocodiles, sea turtles, scaly anteaters, and others. Mammals include mound builders (Tabon bird scrubfowl) *Megapodius freycinet cumingii*, Fairy bluebird *Irenea puella*, Philippine cockatoo *Cacatua haematuropygia*, Palawan peacock pheasant *Polypecton emphanum*, Talking mynahs *Gracula religiosa*, Blue-naped parrot *Tangynathus lucionensis*, Gray Imperial pigeons *Ducula Piceringii*, White bellied sea eagle *Haliaeetus leucogaste*, swiftlets, and many other endemic and rare bird species.

The Park is one of three most actively sites in the Philippines that all happen to be situated in Palawan province. They are the Tubbataha Reef National Marine Park (a World Heritage Site), and the El Nido Marine Reserve which is one of the candidate sites within Palawan to become part of the NIPAS. The other two are Coron Island and Malampaya Sound. The three sites are currently being supported by another EU assisted project: The National Integrated Protected Area Programme implemented through the DENR. Saint Paul Subterranean River National park was one of the three pilot conservation areas under the debt-for-nature swap scheme being undertaken by the Philippine Department of the Environment and Natural Resources (DENR), the World Wildlife Fund (WWF), and the Haribon Foundation (HF).

The Park is a core area of the Palawan Biosphere Reserve, also known as the Environmentally Critical

Network (ECAN), which is in the framework of the Strategic Environmental Plan<sup>17</sup> (SEP).

In the Ulugan Bay section of the Buffer Zone, the coastal ecosystems are generally degraded, indicated by the dominance of dead corals due in large part to siltation and destructive fishing methods. The mangrove areas are denuded, especially in the southern and eastern shores. Widespread traditional mangrove use continues. Forest cover is still extensive in nearby upland areas of the watershed but extensive clearing for agriculture and human settlement has occurred in most lowland areas. However, despite the degradation, fishery within the bay produces over 133 metric tons of fish per year that is the primary source of cash and sustenance for the 310 resident fishermen and their families.

The young City of Puerto Princesa (founded as a Spanish settlement in 1872, declared as the capital of Palawan by the American colonial government in 1911, and becoming a city in 1970) has a tradition for being ecologically responsible. As early as 1894, the government cited Puerto Princesa as one of the most beautiful towns in the country, citing the cleanliness of its community, the orderly development of the streets, houses, and buildings.

A century later, in 1997, Puerto Princesa was awarded "The Cleanest and Greenest Component City in the Philippines" by the national government. In his response upon receiving the award, Mayor Edward S. Hagedorn reiterated the vision for Puerto Princesa: "Our shared vision for the City of Puerto Princesa is to make it the number one eco-tourist destination in Asia, if not in the whole world: a park-like city that no traveller can afford to miss; a home for disciplined, progressive, and environmentally-friendly people; and a model city in cleanliness, peace and order, and progress."

---

<sup>17</sup> Annex 12: Republic Act 7611, "An Act Adopting the Strategic Environmental Plan for Palawan," June 1992

b) History and Development

Dean C. Worcester writes<sup>18</sup>, "The natives must have known it [Saint Paul Cave], although fears of spirit dwelling in it prevented them from entering it. Commander Bate of the English Navy and his successor ... must have taken cognizance. So would Don Claudio Montero who would make maps of the Calamianes, published by the Hydrographic Office in Madrid. But the earliest mention one could hold of would be that of an Assistant Professor of Zoology at the University of Michigan, who later became Secretary of the Interior in the first decade of American Rule, Dean C. Worcester, who wrote in 1897 while touring "If accounts are to be believed [of] a lake opening to the sea by a Subterranean River ... "

The 'lake' is really a cove close to the center of Saint Paul Bay on the west coast of Palawan Island. However the real attraction is the "spectacular subterranean river emptying into it." The underground river is the centerpiece of the Saint Paul Subterranean River National Park. It snakes through a magnificent landscape of karst limestone, supporting a primary growth forest teeming with endemic flora and fauna.

The Park is presently one of the remaining relatively unspoiled sites in the country, known to be among the best managed parks in the Philippine National Park System.

Saint Paul Subterranean National Park was proposed as a national park in 1950 because of its rich natural resources and unique geological features. In 1971, Proclamation No. 835<sup>19</sup>, finally approved the proposal. Due to financial constraints, it was only in 1979 that the actual administration and management was handed by the Bureau of Forestry to the

---

<sup>18</sup> Worcester, 1911

<sup>19</sup> Annex 3

Department of Natural Resources when it had a staff of two. It was managed under the Debt for Nature Swap Program. The Park is a core area of the Palawan Biosphere Reserve, and also of the Environmentally Critical Areas Network (ECAN) under the Strategic Environmental Plan (SEP) of Palawan.

Republic Act 7160<sup>20</sup>, otherwise known as the Local Government Code of 1991, called for the transfer of functions and responsibilities for the delivery of basic services and the related facilities from the National Government Agencies concerned to the Local Government Units. Therefore, the authority over Saint Paul Subterranean River National Park was devolved from the National Government to the Local Government Unit, or the City Government of Puerto Princesa.

The management, protection, maintenance, and rehabilitation of the Park became the responsibility of the Local Government Unit, or the City Government of Puerto Princesa. In a country where national parks are managed by the national government, Saint Paul Subterranean National Park is unique since it is the only national park completely managed by a city government.

In observance of the NIPAS Act, the City Government organized a PAMB<sup>21</sup> for the management of the Park.

Within the Core Area of the property, tourism activities are closely supervised. Since the only residents within the Core Area of the Park are the staff members, interaction with humankind is well controlled.

Various human activities are carried on in the Buffer Zone that threaten the property. The most significant

---

<sup>20</sup> Annex 13: for Local Government Law and Devolution Documents to Puerto Princesa

<sup>21</sup> Annex 14: Supplemental Memorandum of Agreement for the Creation of a Saint Paul Management Board

are tourism-oriented (increasing number of visitors, uncontrolled tourism development and unsupervised visitor activities), and the agricultural activities of the residents. The extensive biodiversity and forest existing in this area should be protected from agricultural encroachment. The Management Plan presently being drawn by PAMB with the assistance of the European Council-Palawan Tropical Forestry Protection Programme) EC-PTFPP aims to establish sustainable protective measures for the agricultural land within the new Buffer Zone where human activities are concentrated. It further aims to introduce protective measures that will improve the quality of life of the area residents.

c) Form and Date of Most Recent Records of Property

A detailed inventory is contained in the 1991 World Heritage Nomination document.

d) Present State of Conservation

The following is a list of more recent inventories attached as Annexes<sup>22</sup>:

1. Gonzales, Benjamin J. and Watanuki, Naohiko, 1996. Mangrove Shoreline Fishes of Ulugan Bay\*
2. Walters, J. S., 1996. Coastal area profile Ulugan Bay, Palawan. USAid/Silliman University Report
3. Consuelo/Arceo J./Neuman, 1996. Resource Assessment of Saint Paul Marine Reserve
4. Walters, J. S., 1996. Coastal area profile Ulugan Bay, Palawan. USAid/Silliman University Report
5. Tabangay/Consuelo/Dwyer, 1995. Avifaunal Distribution and Abundance in the SPSRNP
6. Tabangay/Consuelo, 1995. The Butterflies of SPSRNP

---

<sup>22</sup> Annex 15 (a-d): Inventories

7. Tabangay, G. T., 1994. Notes on the Distributional Patterns and Species Richness Among Bats Roosting in the Saint Paul Caves
8. \*Wisura, Walter, 1993. Tree List at SPSRNP
9. \* \_\_\_\_\_, 1993. Tree Identification at SPSRNP
10. \_\_\_\_\_, 1993. Inventory of Relative Abundance of Avifauna at SPSRNP
11. Alcantara, 1993. Biological and Behavioral Aspects of Philippine monkeys (Preliminary Report)
12. Adriano, P. I., 1993. Habitat Requirements, Feeding and Breeding of Tabon Bird (*Megapodius Freycinet Cumingii*), DENR, PPC
13. Adriano, P. I., 1993. Habitat Requirements, Feeding and Breeding of Tabon Bird (*Megapodius Freycinet Cumingii*), DENR, PPC
14. \*Deogracias, Jose V., \_\_\_\_\_. Vegetational Analysis of SPSRNP
15. Piccine, L. and Rossi, G., \_\_\_\_\_. Italian Caving Exploration in the Island of Palawan, *Speleologia 16-42* St. Paul.

N. B. Entries marked with an asterisk (\*) are attached as Annex 15 (a-d).

e) Policies and Programmes Related to the Presentation and Promotion of the Property

Although the city government is doing no conscious promotional effort for the property until all of its tourism protection mechanisms are in place, the Subterranean River is well known nationally and internationally.

Saint Paul Subterranean River National Park rides on the publicity and high public profile of Puerto Princesa. The city is nationally known for leading the country in environmental conservation activities. Therefore by its association with the city, the Park is gaining increased national attention, regarded by

Filipinos as among the successful environmental projects undertaken by the city government.

In recognition for its success in environmental conservation, the National Government awarded the City of Puerto Princesa with the honor of being "Cleanest and Greenest Component City in 1997."

#### 4. MANAGEMENT

##### a) Ownership

Saint Paul Subterranean River National Park is within the Public Domain. The City Government of Puerto Princesa exercises ownership over the site.

##### b) Legal Status

The legal owner of the park is the City Government of Puerto Princesa by virtue of the Memorandum of Agreement for Devolution<sup>23</sup>

The City Mayor is the authority with full responsibility over the property.

However, as specified in Republic Act 7586, "An Act Providing for the Establishment and Management of the National Integrated Protected Areas System" (NIPAS), all management decisions for the Park are made by the Mayor in consultation with the Protected Areas Management Board (PAMB).

As specified in the NIPAS Law, the PAMB Board consists of the following: Mayor of Puerto Princesa, Chairman; Palawan Council for Sustainable Development (PCSD), Vice-Chairman; Members are the Department of Environment and Natural Resources; City Environment and Natural Resources Office; Provincial Environment and Natural Resources Office; Haribon Foundation (NGO); Panlipi (NGO, Cultural Communities); Chieftains of

---

<sup>23</sup> Annex 13



Cultural Communities within the Park; Captains of the Barangays within the Park

c) Protective Measures and Means of Implementing Them

The NIPAS Act<sup>24</sup> is the principal law that protects the site and its buffer zone. The PAMB is the authority specified by the NIPAS Act to administer the law and manage the property.

d) Agency/Agencies with Management Authority

City of Puerto Princesa  
Mayor Edward S. Hagedorn  
City Hall, Puerto Princesa, Palawan

City Environment and Natural Resources Office  
Mr Rogelio Daquer  
City Environment and Natural Resources  
Officer and Project Manager, SPSRNP  
146 Manalo Street, Puerto Princesa, Palawan

e) Level at which management is exercised:

The City of Puerto Princesa and the Protected Area Management Board (PAMB) jointly exercise management over the site.

---

<sup>24</sup> Annex 9

f) Agreed plans related to property:

National: Tourism Master Plan for Northern Palawan

Municipal and Local: The Management Plan for SPSRNP is presently being drafted by PAMB with technical assistance from PFTPP. It shall be completed in 1998.

g) Sources and Levels of Finance

The City Budget is the principal source of finance for the site. The Park earnings from entrance fees supplement the city budget. In 1995, the Park earned approximately P1,560,000 from entrance fees. The amount increased to P2,170,000 in 1996. Last year, the entrance fee receipts totalled to P3,207,000. The earnings are deposited into a trust fund, with expenditures from the proceeds restricted for Park purposes. Saint Paul is the only National Park in the Philippines that earns an income from fees and other collections.

h) Sources of expertise and training in conservation and management techniques

Management and staff training has been largely through attendance in national and international workshops and seminars and through the continuing Human Resources Development program being run by the Park management.

The Palawan Tropical Forestry Protection Programme (PTFPP), a program of the Palawan Council for Sustainable Development Staff (PCSD) with the European Union (EU), is deeply involved in projects for the area. Among the components of their program are: (a) strengthening monitoring and patrolling capabilities among institutions working together with local communities within the core zones of the ECAN; (b) promoting the widespread adoption of sustainable upland agriculture

techniques for communities and implements appropriate for small livelihood, health, and sanitation programs; (c) awareness campaign for environmental issues through broadcast, print media, and in cooperation with the Department of Education, Culture, and Sports; (d) strengthening the sustainable management of Saint Paul Subterranean River National Park, a priority area of the program; (e) assistance in the drafting of a Management Plan for the Park; (f) help in stabilizing land tenure in the buffer zone through support to the CADC's and to land titling.

In the Ulugan Bay area, some of the programs that have increased expertise and conservation management techniques have been: Economic and Social Commission for Asia and the Pacific (ESCAP) /United Nations Environment Programme (UNEP) grant for the management of mangrove areas of Ulugan Bay through remote sensing and GIS technology; UNESCO/Coastal Regions and Small Islands Project (CSI) of the Unesco-ROSTSEA Office in Jakarta has designated Ulugan Bay as a pilot site for the project.

With the participation of UNDP, UNESCO will work with the Philippine Government to assist in the integrated development of Palawan as a "Model Ecotourism Site" by 2000, assisting in: (a) the development of Puerto Princesa as an eco-technology village; (b) the preservation and economic viability of the Saint Paul Subterranean River National Park, through both the World Heritage (WH) and the Man and the Biosphere (MAB) Programs; and (c) the management of Tubbataha Reef (World Heritage Site) and the coastal zones.

There have been some initiatives that assisted in the management of the coastal environment around Ulugan Bay. This include: baseline surveys conducted in 1986-89 by a multi-agency group headed by the Marine Science Institute of the University of the Philippines. These surveys assessed

the status of the coral reefs, seagrass beds, and mangroves of the Bay with a view to assist the eventual management of the environment. The coastal Environment Program of the Department of Environment and Natural Resources has been helpful in making people aware of the role of local government in the protection and sustainable use of the resources. The forestry project under the auspices of the European Union is providing needed data and incentives for further development and management of the forest resources in the area. Coupled with the general awareness of the coastal inhabitants on the imperatives of environmental conservation, these are the factors that left Ulugan Bay in a better state of conservation when compared to other national properties.

In 1996, the Palawan Council for Sustainable Development Staff and the Unesco SEAMEO (Jakarta) conducted the "Strategic Planning Workshop for the Stakeholders of the Ulugan Bay Area."

i) Visitor Facilities and Statistics

Information Center and Park Facilities: Visitor information is available and permits to visit the Park are issued at the Park office in Puerto Princesa or at the Park Information Center near the main dock at Sitio Sabang. The primary transfer point from Puerto Princesa and entrance to the Park is at Barrio Sabang, where the final leg of the trip to the Subterranean River begins. The site is reached either by boat or by trekking on the Monkey Trail passing through the Central Park Station at the Malipien Zone, 4 kilometers away from Barrio Sabang. The Central Park Station, where principal Park offices and all staff facilities are located, is approximately halfway to the Subterranean River. The principal Ranger Station is located at the Picnic Area outside the Subterranean River. Three other Ranger Stations have been constructed at strategic perimeter areas. A system of wooden trails and bridges that climbs through the forests and cliffs of the karst mountain traverse

specific points in Park, connecting Barrio Sabang to the Central Park Station and the Subterranean River.

**Interpretation:** The Park staff and the boatmen assigned to the Subterranean River are well trained to transmit basic information to visitors in a clear and understandable manner. In all areas of the Park visited by the public, clear signage reminds visitors of Park regulations as well as identifying the different forest species in the area.

**Tourism activities:** All tourism activities are closely supervised and monitored by the Park staff to assure that the highest standards of Park protection, interpretation and safety are met. The principal activity is, of course, the ride on an outrigger boat paddled through the Subterranean River by boatmen recruited from the local community. They are well trained with basic interpretation information for guiding purposes. Other recreational activities allowed under Park supervision include camping in designated campsites, nature trips, swimming in specified areas provided with lifeguards, spelunking, bird watching, and photography. The Park encourages scientific research and studies, providing interested individuals with a copy of their publication, "Do-it-yourself Pamphlet,"<sup>25</sup> a guide to self-identification of forest trees, shrubs and vines inside the Park.

**Accommodations:** Day visitor facilities are available either at Barrio Sabang or at the Subterranean River. Overnight accommodations are available at the Central Park Station or in privately owned tourist cottage facilities and small resorts principally located in Barrio Sabang with a few a distance away in the other barrios along the shore. The Central Park Station has two cottages that can accommodate a total of 40 visitors, a camping area with public toilets, a picnic area with visitors' kitchen facilities. Visitors, however, are encouraged to bring their own food and

---

<sup>25</sup> Annex 17: "Do it Yourself Pamphlet"

supplies. Staff accommodations are located at the Central Park Station.

Restaurants, shops, car parking, and lavatories are available in Barrio Sabang. Only outdoor picnic facilities and toilets are available at the underground river site.

Search and rescue facilities: Primary centers are located at the Park Information Office in Barrio Sabang or at the Central Park Station. Assistance is also available at any of the Ranger Stations. The closest infirmary is fifteen minutes away by land in Barrio Cabayugan.

Visitor profiles and statistics: The number of visitors to the Park continues to increase steadily. The number of registered visitors<sup>26</sup> to the Park has increased in number from 16,420 in 1997 to 34,337 in October 1997. The greatest increase in number of visitors was from 17,327 in 1995 to 25,064 in 1996. The carrying capacity of the Park is presently being determined by the Management Plan being completed by the EC-PTFPP project.

j) Property Management Plan and Statement of Objectives

The management, protection, maintenance, and rehabilitation of the Park were devolved by the Local Governments Code from the National Government to the City Government, or Local Government Unit. Since the Park is a property covered by the NIPAS Act, the City of Puerto Princesa complied with the provision of the Act and organized a Protected Area Management Board (PAMB) to formulate guidelines and policy directions for the effective management of the Park.

A Management Plan for the Park and its expanded boundaries is currently being drafted by the PAMB with technical assistance from the PTFPP. It will be

---

<sup>26</sup> Annex 18: List of Registered Visitors

completed before the end of 1998. Some of the preliminary objectives of the Plan are:

To reinforce the mission of the park which is for the conservation of natural land values (conservation of the indigenous communities of plants and animals and other natural features). Therefore, the cultural communities are in natural harmony with the Park; most human activities (infrastructure, modernized farming, tourism, etc.) could be viewed as an intrusion.

However, the intrusions must be managed in a manner that maximizes their benefits to conservation and minimizes their negative effects.

The Management Plan intends to propose different levels of protection within the Park boundaries: a strict protection zone (total protection); a sustainable use zone (biodiversity protection with some non-destructive use allowed); restoration zone (restoring degraded areas to natural condition); habitat management zone (management to maintain specific non-climax conditions); multiple use zone (traditional or sustainable land use); buffer zone (multiple use zones outside the Park boundaries), and other zones for special purposes such as cultural, recreational.

k) Staffing Levels

The staff of 50 is headed by the City Environment and Natural Resources Officer who was designated in 1993 by the Chairman of the Protected Area Management Board as the Officer-in-Charge of the Park. An Organizational Chart<sup>27</sup> is attached as an Annex. Two regular Forest Rangers from the City ENRO of Puerto Princesa, and two PNP Officers are also detailed in the Park to assist protection and law enforcement efforts.

5. FACTORS AFFECTING THE PROPERTY

---

<sup>27</sup> Annex 19: SPSRNP Organizational Chart

a) Development Pressures

The rapid increase of visitor arrivals is causing unchecked development for tourism purposes. In Sitio Sabang, tourist lodges are mushrooming. More lodges are being built along the shore between Sabang and the Subterranean River.

An interesting note is that the Mayor of Puerto Princesa has decided that until the proper tourism management mechanisms are in place to protect the Park, the 81 kilometer road from the city to Sabang will remain in its unpaved state as a deterrent for more visitors to the Park. Its relative inaccessibility contributes to the state of conservation existing in the Park.

Agriculture is another serious threat to the Park. Traditional plants are being replaced, in some areas, by cash crops that deplete soil nutrients quickly and require the use of chemical fertilizers. The problem is currently being addressed through conducting training workshops with the agricultural community to introduce sustainable agriculture methods.

b) Environmental Pressures

Within the 5,753 hectares within the Core Area of the Saint Paul Subterranean River National Park, environmental pressures are minimal since there are no residents aside from Park staff.

The Batak cultural community residing within the expanded Park boundaries, whose small population continues to diminish, is under threat. Their activities are hunting and gathering, slash and burn agriculture, and produce a low impact on the forest. However, a study is being done by the PTFPP on the impact of tourism activity on the Batak culture.

Naval presence in Ulugan Bay: The Philippine Navy Station presently located in Ulugan Bay is commonly



perceived as a possible threat to environmental conservation. However, its presence is a deterrent to human activities that damage the environment. Its presence is actually beneficial to the site.

c) Natural Disasters and Preparedness

Minimal facilities presently exist that assure the meeting of natural disasters efficiently. Studies have been conducted to resolve this lack and it is expected that the situation will improve by the end of the year.

d) Visitor/Tourism Pressures

The PAMB-PTFPP Master Plan seeks to address tourism activities within the Park through carefully controlled ecotourism management that will manage visitors, control and regulate tourism development, maximize park revenue and maximize tourism opportunities for local communities, taking special note of the relationship of the tribal communities with the introduction of outside influences through tourism.

With the environmental management and protection programs remaining high in the priorities of the park management, the mangroves of the Ulugan Bay, the most unique in the country, will be highlighted as a tourist destination by itself, or a showcase en route to the Subterranean River. This added value increases the awareness of the nature and beauty of the mangroves and their natural associates, making the visit to the Saint Paul Subterranean River National Park a total and complete experience.

e) Number of Inhabitants within Property and Buffer Zone

Within the Core Area, the only residents are the Park staff.

Cultural Communities that live in the expanded boundaries number approximately 100-300.

In the Ulugan Bay area of the Buffer Zone, there are 3,130 residents (1996 data) living in the 5 barangays (Bahile, Macarascas, Buenavista, Tagnipa, and Cabayugan) that surround the bay. Fishing is the primary source of cash and sustenance for the population.

6. MONITORING

Key Indicators for Measuring State of Conservation are the Nomination Dossier of 1991 and the inventories listed in 3 (d).

Administrative Arrangements for Monitoring the Property are all in the charge of the Protected Area Management Board (PAMB) for Saint Paul Subterranean River National Park.

Results of previous reporting exercises are available with the PAMB.

7. DOCUMENTATION

Photographs, Slides, Film/Video: Please refer to the attached index.

Copies of Property Management Plans and Extract of Other Plans Relevant to the Property:

Annex 16: Tourism Master Plan for Northern Palawan

The PAMB-PTFPP Management Plan for Saint Paul Subterranean River National Park is currently being prepared and scheduled for completion in 1998.

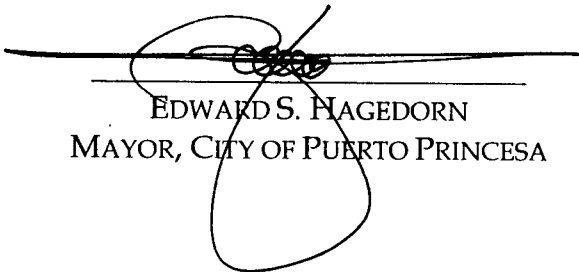
Bibliography: Please refer to Annex 1

a) Address where Inventory, Records, and Archives are Held

Protected Area Management Board  
146 Manalo Street  
Puerto Princesa, Palawan

Unesco National Commission of the Philippines  
Department of Foreign Affairs, Manila

8. SIGNATURE ON BEHALF OF THE STATE PARTY



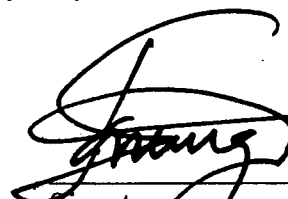
EDWARD S. HAGEDORN  
MAYOR, CITY OF PUERTO PRINCESA

## AUTHORIZATION

1. I, DOMINGO L. SIAZON, JR.  
the undersigned, hereby grant free of charge to UNESCO the non-exclusive right for the legal term of copyright to reproduce and use in accordance with the terms of paragraph 2 of the present authorization throughout the world the photograph(s) and/or slide(s) described in paragraph 4
2. I understand that the photographs(s) and/or slide(s) described in paragraph 4 of the present authorization will be used by Unesco to disseminate information on the sites protected under the World Heritage Convention in the following ways.
  - a) Unesco publications
  - b) Co-editions with private publishing houses for World Heritage publications: a percentage of the profits will be given to the World Heritage Fund;
  - c) Postcards – to be sold at the sites protected under the World Heritage Convention through national parks services or antiquities (profits, if any will be divided between the services in question and the World Heritage Fund);
  - d) Slide series – to be sold to schools, libraries, other institutions and eventually at the sites (profits if any, will go to the World Heritage Fund);
  - e) Exhibitions, etc.
3. I also understand that I shall be free to grant the same rights to any other eventual user but without any prejudice to the rights granted to Unesco.
4. The list of photograph(s) and/or slide(s) for which the authorization is given is attached. (Please describe in the attachment the photographs and give for each a complete caption and year of production or if published of first publication.)
5. All photographs and/or slides will be duly credited. The photographer's moral rights will be respected. Please indicate the exact wording to be used for the photographic credit.
6. I hereby declare and certify that I am duly authorized to grant the rights mentioned in paragraph 4 of the present authorization.
7. I hereby undertake to indemnify Unesco and to hold it harmless of any responsibility for any damages resulting from any violation of the certification mentioned under paragraph 6 of the present authorization.
8. Any differences or disputes which may arise from the exercise of the rights granted to Unesco will be settled on a friendly way. Reference to courts or arbitration is excluded.

Pasay City, Philippines  
Place

19 August 1998  
Date

  
Signature  
Chairperson, UNESCO  
National Commission of  
the Philippines

**LIST OF PHOTOGRAPHS**  
(All photographs appearing in the nomination dossier)

1. Lagoon and entrance to the underground river (Cover page)
2. Limestone formations along the entrance to the subterranean park (page 1 insert after page 10)
3. Primary growth forest at the entrance of the subterranean park (page 1 of insert after page 10)
4. Small boats at the entrance to the underground river (page 2 of insert)
5. A boat at the lagoon of the underground river (page 2 of insert)
6. View of St. Paul Bay and Mt. Bloomfield (cover page- annexes)

**Description:**

The underground river is the centerpiece of the Saint Paul Subterranean River National Park. It snakes through a magnificent landscape of karst limestone, supporting a primary growth forest teeming with endemic flora and fauna.

\*\*\*All photographs were taken and produced in 1997 by Archt. Augusto Villalon.

---

## WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

### ST. PAUL SUBTERRANEAN RIVER NATIONAL PARK (PHILIPPINES)

---

#### 1. DOCUMENTATION

- i) **IUCN/WCMC Data Sheet:** (4 references).
- ii) **Additional Literature Consulted:** Middleton, J. & T. Waltham. 1986. **The Underground Atlas.** 239 p; Olsen, D.M. and E. Dinerstein. 1998. **The Global 200: A Representation Approach to Conserving the Earths Distinctive Ecoregions.** WWF-US; Protected Area Management Board, Palawan. 1996. **Saint Paul Subterranean National Park Management Plan, 1996;** IUCN. 1996. **Red List of Threatened Animals;** Davis S. *et al.* eds. 1995. **Centres of Plant Diversity,** IUCN/WWF; IUCN. 1997. **A Global Overview of Forest Protected Areas on the World Heritage List.** IUCN; Villalon, A. 1999. **Profile of National Parks in the Philippines.** Protected Areas and Wildlife Bureau, Department of Environment and Natural Resources. Quezon City. 174 p; Republic of the Philippines. 1991. **An Act Providing for the Establishment and Management of National Integrated Protected Areas Systems.**
- iii) **Consultations:** 5 External reviewers, relevant officials from government and non government organisation in Philippines.
- iv) **Field Visit:** J. Thorsell, January 1993; D. Sheppard and H. Friederich, February 1999.

#### 2. SUMMARY OF NATURAL VALUES

The nominated site, the St. Paul Subterranean River National Park (SPSRNP), is located in the Saint Paul Mountain Range. It is north-west of Puerto Princesa, the capital of Palawan province. Palawan itself is 490km south-west of Manila (see Map 1). The SPSRNP lies within the jurisdiction of the government of the city of Puerto Princesa. The nominated site is a revision of an earlier one deferred in 1993, due to questions about inadequate size. The 1993 IUCN Technical Evaluation noted that, while the site was suitable for World Heritage listing, the area was too small to adequately protect its underground river watershed and to ensure the long-term viability of its significant biodiversity. The original 1993 nomination, of 5,753ha was thus revised, and an expanded nomination was considered by the World Heritage Bureau in July 1999. This was further referred back to the Philippine authorities for final modification and legal definition of boundaries. The State Party submitted a draft Presidential Proclamation declaring a nominated area of 20,202ha and this adds a 14,449ha buffer zone (hereafter called the buffer zone) to the original 1993 core nomination area. The draft Proclamation noted several points of GPS coordinates, but no map was included.

SPSRNP consists of various landforms, the most impressive of which is the karst mountain landscape of the Saint Paul Mountain Range. The topography varies from flat plains to rolling hinterlands and hills to mountain peaks. More than 90% of the park comprises sharp, karst limestone ridges around Mount St. Paul which is itself part of a series of rounded, limestone peaks aligned on a north-south axis, along the western coast of Palawan. The area's natural values are significant, and have been previously assessed by IUCN as meeting World Heritage natural criteria (iii) and (iv). quality. The focus of the area is a spectacular karst landscape containing an 8.2km long subterranean river, one of the most unique of its type in the world. The underground river includes many speleotherms, and

several large chambers exist, up to 120 meters in width and 60 meters in height. The limestone mountain has extensive karst features, both surface karst (pinnacles, shafts, dolines and limestone cliffs), as well as an extensive underground river system. A distinguishing feature of the river is the fact that it emerges directly into the sea, and that the lower portion of the river is brackish and subject to tidal influences. The underground river (the Cabayugan River) arises approximately 2km southwest of Mount Saint Paul at an altitude of 100m, and flows underground for almost its entire length to an outflow into St. Paul's Bay. All rivers and associated tributaries are within the SPSRNP nomination, which is important in relation to catchment impacts on the water quality of the Cabayugan River.

Three forest formations are present: lowland, karst and limestone. Approximately two-thirds of the nomination is forested, dominated by hardwood species. The karst forest is restricted to small pockets where soils have developed. In the coastal area, mangroves, mossy forest, sea grass beds and coral reefs are also found. The significance of forest biodiversity within the nomination is discussed in Section 3 of this report. The Alugan Bay component of the SPSRNP has been noted by a number of reviewers as having national significance for its mangrove forest. The faunal diversity in the SPSRNP is moderate, especially with respect to invertebrates. Endemic mammals include the Palawan tree shrew, Palawan porcupine and Palawan stink badger. Dugong have been recorded in the marine component of the park. Monitor lizard and marine turtles are also present. The Palawan Peacock Pheasant has also been recorded in the SPSRNP (recognised as an internationally threatened species). The subterranean fauna has not been studied in detail, but comprises fish, prawns, snakes and insects. The tunnel and chambers of the subterranean river are home to abundant populations of swiftlets and bats. Eight species of bats are also found in the cave, and cave swiftlets nest on some of the underground boulder piles. Further studies are required to determine the extent and diversity of the underground fauna.

### **3. COMPARISON WITH OTHER AREAS**

St. Paul Underground River has similar geomorphological qualities as some other limestone areas in South and Southeast Asia, notably Gunung Mulu National Park in Sarawak, Phong Nha Nature Reserve and Ha Long Bay in Vietnam, Lorentz National Park in Irian Jaya and Gomantong in East Malaysia.

The vast majority of existing World Heritage karst sites are in temperate regions. Within the tropical karst region the following comparisons can be made. Ha Long Bay in northern Vietnam contains significant karst topography and caves, in a spectacular coastal setting. This site was not nominated on the basis of these values but the potential World Heritage significance of karst values within the site has recently been reviewed. The caves in Ha Long Bay are mostly small in comparison to the St. Paul Subterranean River, but they do have ancillary value as they provide key evidence of changing sea levels on the Sunda Shelf. In Thailand, the Thungyai-Huai Kha Khaeng Wildlife Sanctuaries contains significant areas of lowland riverine forest and other forest types more typical of strongly seasonal tropical climates. This property includes low-relief limestone terrain with some caves, and karst wetlands.

The major feature of the nominated area is the 8km underground river. There are many underground rivers in other karst regions around the world. For example, the Clearwater Cave and the 37km Melinan River in Sarawak's Gunung Mulu National Park have arguably more significant underground rivers. Within the Philippines a 9km river cave exists at Callao on Luzon. The underground river in St. Paul is not as dramatic as similar features found in existing World Heritage sites in Slovenia's Skocjanske Jama, Kentucky's Mammoth Cave or the Canadian Rockies Castleguard and Maligne River Caves.

One feature that distinguishes St. Paul, however, is that the underground river flows directly into the sea amidst a tropical coastal setting. The underground river flowing into the sea, and the associated

tidal influence, makes this an outstanding feature. One reviewer also noted that St. Paul warrants special consideration simply because it is one of the few such rivers which the general public can easily experience and appreciate.

There is one other World Heritage site in the Palawan Biogeographic Province: the Tubbataha Reef Marine Park. However, this protects different values from those identified for St. Paul. Palawan is an important biogeographic province, with a rich biota drawn from both Malaysian and Pacific sources. Palawan is distinct from the rest of the Philippine archipelago as it lies on the Sunda Shelf and has derived most of its fauna from Borneo during recent geological times.

The biodiversity within this site is considered significant. The Palawan Moist Forest, which is represented within the nomination, is noted in WWF's Global 200 report as having the richest tree flora of Asia, with high levels of regional and local endemism. The Palawan Moist Forest also has the largest and richest examples of limestone forests in Asia. The St. Paul National Park is also noted, in a recent global overview of forested protected areas on the World Heritage List (IUCN, 1997), as a forested protected area which may merit consideration for World Heritage nomination. This was reinforced in an expert consultative meeting on World Heritage Forests, which was held in Sumatra in December, 1998. This meeting considered St Pauls to be a tropical forest site of high biodiversity value, with high World Heritage potential. The conservation significance of this forest at the international level is heightened when considered in the context of the high levels of past and current deforestation in the Philippines and in the region. For example, the Environmental Legal Assistance Centre (ELAC) of Puerto Princesa notes that: "in 1903, there were more than 21 million hectares of forest in the Philippines, or more than half of the country's total area. Today, less than 6 million hectares of forest are left. In 1994, there were only 800,000 hectares of old growth forest left". Palawan has, in fact, been described as "the last best hope" for forest conservation in the Philippines. The role and maintenance of St. Paul takes on a special urgency in this perspective.

The marine component of the property is a small but important feature of the nomination and the mangrove swamp, adjacent to the limestone hills, adds to the what is a spectacular natural setting.

In conclusion, SPSRNP has a number of features that combine to distinguish it from other areas. These include:

- ◆ The underground river flowing directly into the sea amidst a tropical forest setting, with its associated tidal influence;
- ◆ The forests within the nomination which are amongst the most significant in Asia, being representative of Palawan Moist Forest, and which have been identified in a number of expert reviews as having World Heritage potential; and
- ◆ The fact that this is the most important site for conservation in the Palawan Biogeographic Province.
- ◆ The coverage of a complete "mountains to the sea ecosystem", within the nomination



## **4. INTEGRITY**

### **4.1. Boundaries**

A Presidential Proclamation has declared that nominated area of 20,202ha as the St. Paul Subterranean Natural Park, under the Philippines NIPAS Act of 1992. The Proclamation includes specific GPS co-ordinates describing the nominated area. The area is shown in Map 2 and includes land within the boundaries of three Barangays (Barangay is an administrative boundary for local purposes).

There are two relevant points which were reinforced by the 1999 field inspection. First, the reason for the deferral of the original nomination was to ensure adequate protection of the catchment of the underground river, and thus ensure protection of the natural values, particularly those related to water quality and quantity of the underground river. This river and its tributaries are all within the Barangay Cabayugan. This is thus the critical area for protecting any potential World Heritage values in the nomination. The adjoining Barangay Marufinas also has important biodiversity values, particularly for forest conservation. The natural values of the other Barangays, while still important, are less significant in the context of potential World Heritage, as these areas are not essential for the protection of the catchment values of the subterranean river, and are less important for biodiversity conservation. IUCN thus notes that the current nomination is confined to the core area of the park and to the immediately adjacent Barangays (Tagabinet, Cabayugan and Marufinas).

It should be noted also that Ulugan Bay, while considered by IUCN to not be of World Heritage status, is very important for mangrove conservation, at a national level. This significance should be recognised, possibly through designation as a Ramsar site, if agreed by the State Party.

Second, the nomination notes that consultation with key stakeholders within the nominated area occurred in December, 1997. However, the field inspection in February, 1999 noted a lack of clear agreement by relevant Barangays to the inclusion of lands within the nominated area as World Heritage. This was addressed by the State Party through further consultation. Formal resolutions have been submitted from the three Barangays surrounding the St. Paul Subterranean River National Park noting their agreement to include their respective areas within the revised nomination boundaries.

### **4.2. Legal Status**

The previous IUCN review recommended deferral until a legal definition of boundaries is available. Clear legal protection of natural values is essential before the area could be considered for World Heritage listing. The boundaries of the nomination have been incorporated within a Presidential Proclamation, which declares the nominated site as protected area under Republic Act 7586 (NIPAS Act of 1992).

IUCN also notes that the legal owner of the Park is the City Government of Puerto Princesa, by virtue of the Memorandum of Agreement (MOA) for Devolution, between the City Government and the National Government. Under this MOA, the City Mayor is the authority with full responsibility over the property and all management decisions for the Park are made by the Mayor in consultation with the Protected Areas Management Board (PAMB). This agreement means that the area is protected at a local rather than a national level. This arrangement appears to have worked effectively to date, largely reflecting strong support at the local political level, particularly from the City Mayor. If this area is inscribed as a World Heritage site, IUCN considers it important that the status of natural values is monitored effectively over time, to ensure that these values are not compromised by any change in local management perspectives which may occur in the future.

### **4.3. Management**

Management can be considered at two levels: the core zone and the buffer zones. Management of the core zone (comprising the Park) is currently very effective, reflecting strong local political support as well as reasonable funding and staffing levels. Funds raised from tourists visiting the site are increasing and earnings are deposited into a trust fund, with expenditures from the proceeds allocated for park management purposes. St. Paul is the only National Park in the Philippines that earns an income from fees in this way. Staffing levels are adequate but more training in park planning and management is required. Current park management builds on the foundation of earlier work, particularly that started when the park became the subject of an internationally financed Debt-for-Nature Swap Programme in 1989, through WWF – The World Wide Fund for Nature.

There is a management plan for the Park which sets out relevant objectives and programmes to ensure effective management of the Park. The plan provides for zonation within the park boundaries. IUCN considers the management plan for the park to be a professional document, but more resources are required in order to fully implement the plan.

Management of the buffer zone is covered by management guidelines which seek to regulate activities to minimise impact on the core zone. These guidelines are presently being prepared by the PAMB with the assistance of the European Council-Palawan Tropical Forestry Programme (EC-PTFFP), which aims to establish sustainable protective measures for the agricultural land within the buffer zone. It further aims to introduce protective measures that conserve natural resources and improve the quality of life of the area's residents. IUCN considers that the existing management plans for the core zone and the management guidelines for the buffer zone should be consolidated and harmonised, in order to effectively protect the catchment of the underground river. It is noted that such harmonisation is underway at present and this is to be commended.

### **4.4. Threats**

There are several threats to the core zone of the SPSRNP from activities in the adjacent catchment area. The main threats are from forest clearing and agricultural activities. Tourism in the area, if not carefully planned and implemented, also has great potential to adversely impact on the natural values of the core zone. At present, tourism is at low level although it is increasing. Tourism management objectives for the Park are set out in the management plan and these appear relevant and effective. It is important that a tourism development strategy be developed for the entire nomination, (core and buffer zone) which enhances visitor appreciation of nature while protecting natural values. Water quality in the underground river is invariably affected by upstream agricultural activities in the catchment area. Evidence of these activities was witnessed by the IUCN mission team in 1999. There is need for the previously mentioned management guidelines to cover issues such as removal of pollution inputs to the river.

## **5. ADDITIONAL COMMENTS**

### **5.1. Regional Integration**

The nominated area demonstrates the importance of integrated regional planning, if core World Heritage values are to be protected. It is noted that all of Palawan is covered by an Integrated Conservation and Development Plan. Within the nomination, the Palawan Forestry Protection Programme is currently addressing many of the issues mentioned above, within the buffer zone.

### **5.2. Cultural Heritage**

St. Paul Cave was known to local people since ancient times, in their thoughts it was inhabited by a spirit that prevented them from entering the cave. The park's territory and surroundings are the

ancestral lands of the Batak and Tagbanua communities. The needs of the local communities are being considered through the preparation of the previously mentioned management guidelines.

### **5.3. Ulugan Bay**

This area is located within the nominated area, and it comprises mangrove forests in various conservation states. It has been estimated that 15% of the mangroves in the Philippines are in Ulugan Bay. Possible threats to Ulugan Bay from a proposal to establish a Naval base were also noted by the IUCN mission. This area is considered nationally significant and IUCN considers that it may be suitable as a Ramsar site. This should be considered by the State Party.

### **5.4. Recommendation from the twenty-third ordinary session of the Bureau: July, 1999.**

The Bureau noted that the site meets natural criterion (iii) and (iv). The Bureau however decided that the nomination be referred back to the State Party for amendment and legal definition of boundaries so that they include the area most important for the protection of the catchment of the underground river and for biodiversity conservation. As noted, the State Party submitted a draft Presidential Proclamation to the World Heritage Centre on 15 September, 1999, which noted a number of GPS coordinates. A map was requested but had not been received by IUCN as at 6 October, 1999.

## **6. APPLICATION OF WORLD HERITAGE NATURAL CRITERIA**

The SPSRNP is nominated under three natural criteria. The previous IUCN evaluation report in 1993 noted that the site: “meets two natural criteria: criterion (iii) as a site with a spectacular karst landscape including its underground river and caves, and criterion (iv) with its habitat for many rare and endemic species.” This evaluation report reinforces the 1993 evaluation and notes the following in relation to the three natural criteria under which the SPSRNP was nominated.

### **Criterion (ii): Ecological processes**

The SPSRNP provides examples of important on-going ecological processes. IUCN considers this importance to be of regional rather than international significance and considers that this nominated site does not meet natural criterion (ii).

### **Criterion (iii): Superlative natural phenomena, scenic beauty**

The Saint Paul Mountain Range features a spectacular limestone karst landscape. The underground river, flowing into the sea, and its associated tidal influence, make this a significant natural phenomena. IUCN considers that the nominated site meets criterion (iii).

### **Criterion (iv): Biodiversity and threatened species**

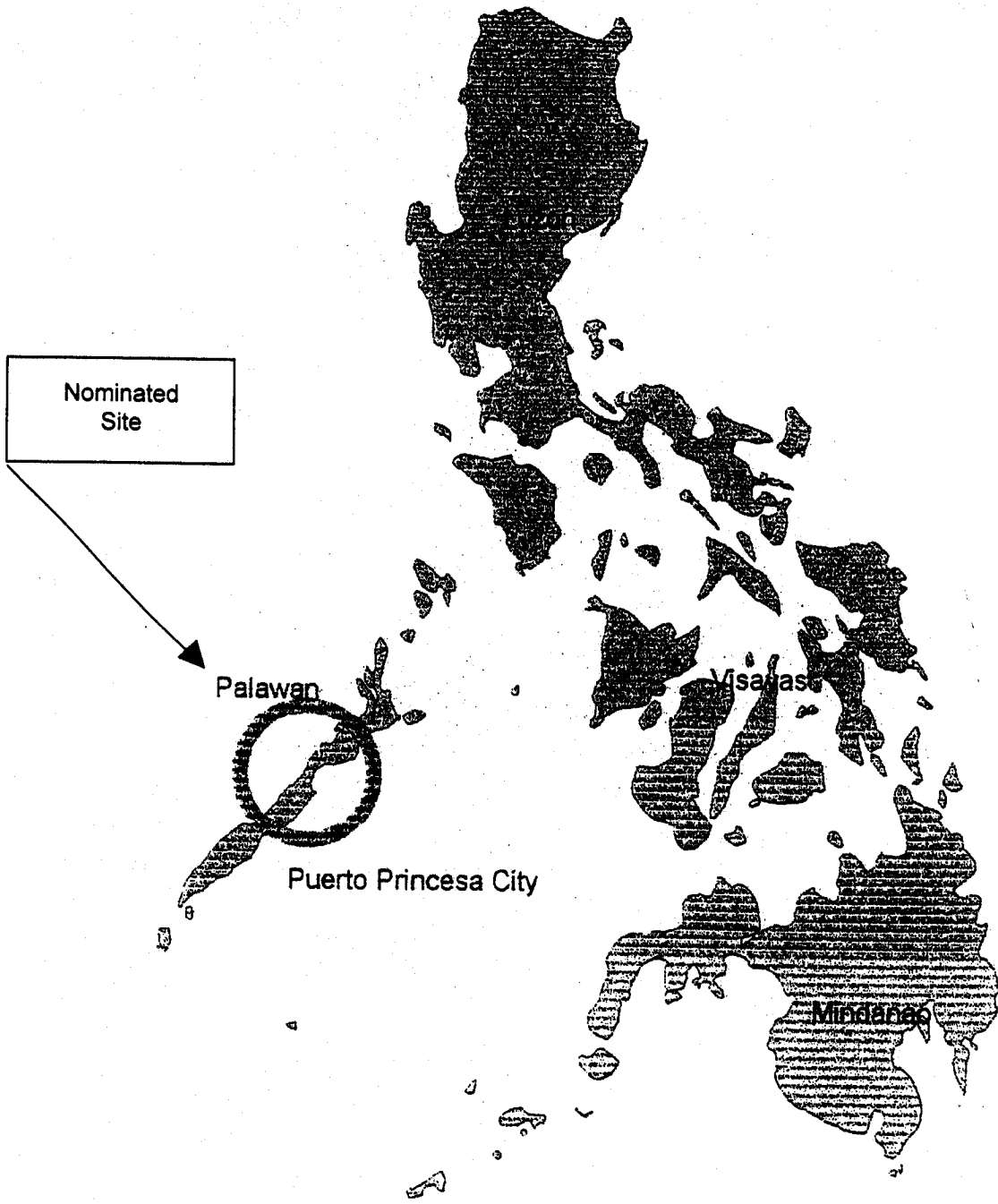
The nominated area represents a significant habitat for biodiversity conservation. The SPSRNP contains a full mountain to the sea ecosystem and protects the most significant forest area within the Palawan Biogeographic Province. IUCN considers the nominated area meets natural criterion (iv).

## **7. RECOMMENDATION**

That the Bureau recommend to the Committee that the St. Paul Subterranean River National Park be **inscribed** on the World Heritage list under natural criteria (iii) and (iv), subject to a signed Presidential Proclamation and a map of the site being available by the time of the November 1999 Bureau Meeting. The Bureau should commend the Government of the Philippines on two issues:

- ◆ Their consultative process undertaken with relevant authorities, specifically the affected Barangays; and
- ◆ Their approaches to integrated regional land use planning which aim to ensure that the World Heritage values of the nominated site are maintained.

# PHILIPPINES

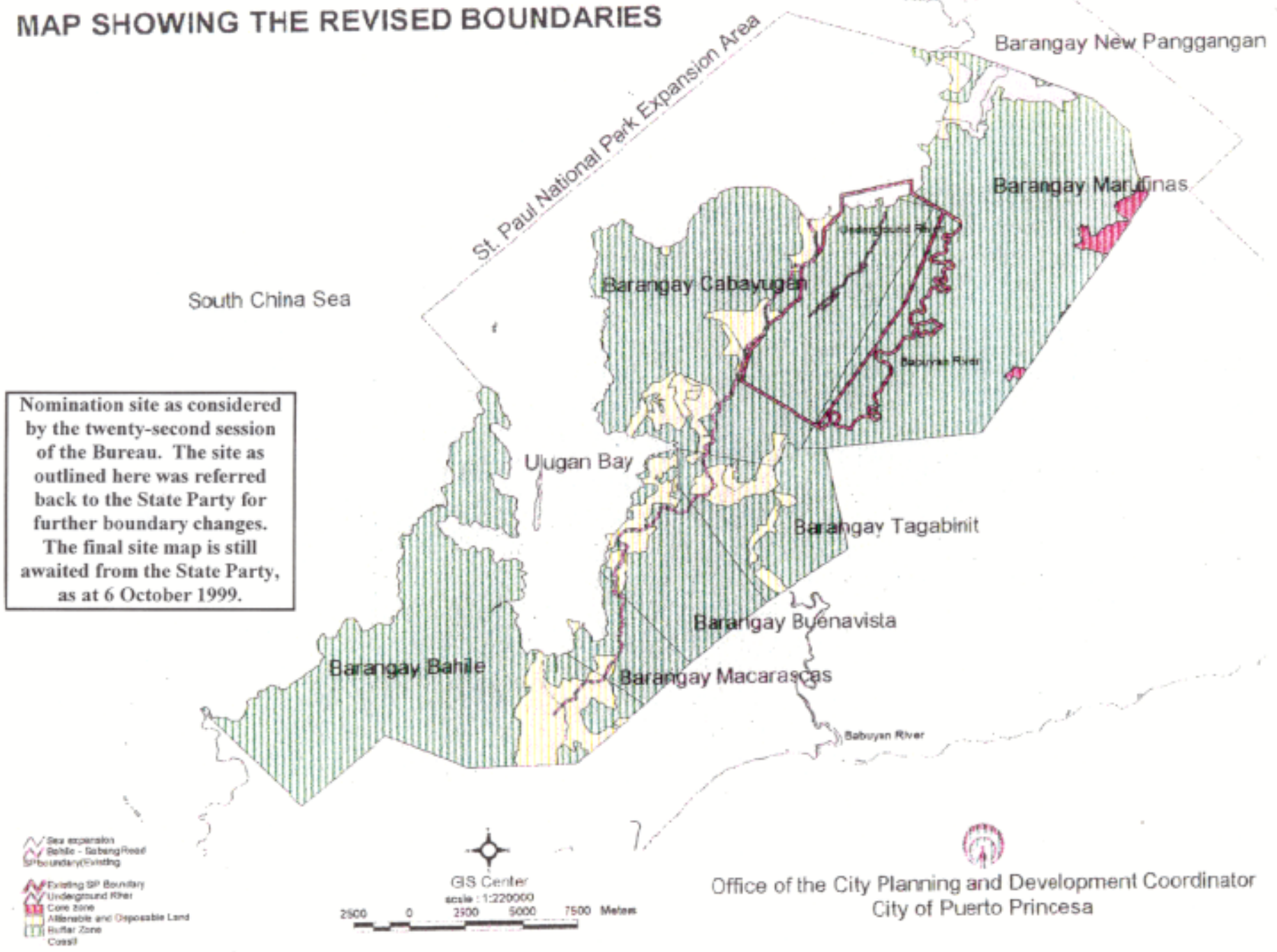


**GIS Center**

Office of the City Planning and Development Coordinator  
CITY OF PUERTO PRINCESA

Map 1. Location of Nominated Site

# MAP SHOWING THE REVISED BOUNDARIES



Nomination site as considered by the twenty-second session of the Bureau. The site as outlined here was referred back to the State Party for further boundary changes. The final site map is still awaited from the State Party, as at 6 October 1999.

Office of the City Planning and Development Coordinator  
City of Puerto Princesa

Map 2. Nominated Site

---

**CANDIDATURE AU PATRIMOINE MONDIAL - ÉVALUATION TECHNIQUE UICN**  
**PARC NATIONAL DE LA RIVIÈRE SOUTERRAINE DE ST PAUL (PHILIPPINES)**

---

**1. DOCUMENTATION**

- i) **Fiches techniques UICN/WCMC** (4 références).
- ii) **Littérature consultée** : Middleton, J. & T. Waltham. 1986. **The Underground Atlas**. 239 p; Olsen, D.M. et E. Dinerstein. 1998. **The Global 200: A Representation Approach to Conserving the Earths Distinctive Ecoregions**. WWF-US; Protected Area Management Board, Palawan. 1996. **Saint Paul Subterranean National Park Management Plan, 1996**; UICN. 1996. **Red List of Threatened Animals**; Davis S. *et al.* eds. 1995. **Centres of Plant Diversity**, UICN/WWF; UICN. 1997. **A Global Overview of Forest Protected Areas on the World Heritage List**. UICN; Villalon, A. 1999. **Profile of National Parks in the Philippines**. Protected Areas and Wildlife Bureau, Department of Environment and Natural Resources. Quezon City. 174 p; Republic of the Philippines. 1991. **An Act Providing for the Establishment and Management of National Integrated Protected Areas Systems**.
- iii) **Consultations** : 5 évaluateurs indépendants, responsables compétents des organisations gouvernementales et non gouvernementales aux Philippines.
- iv) **Visite du site** : J. Thorsell, janvier 1993; D. Sheppard et H. Friederich, février 1999.

**2. RÉSUMÉ DES CARACTÉRISTIQUES NATURELLES**

Le site proposé, le Parc national de la rivière souterraine de St Paul (SPSRNP), est situé dans la chaîne de montagnes de St Paul, à 81km au nord-ouest de Puerto Princesa, chef-lieu de la province de Palawan. Palawan se situe à 490km au sud-ouest de Manille (voir carte 1). Le SPSRNP se trouve dans la juridiction du gouvernement de la ville de Puerto Princesa. Le site désigné est le fruit de la révision d'une première demande d'inscription, qui avait été différée en 1992 en raison des dimensions inadéquates du site proposé. Selon l'Évaluation technique de l'UICN, en 1993, le site méritait d'être inscrit au patrimoine mondial mais sa superficie était trop limitée pour protéger de manière adéquate le bassin versant de la rivière souterraine et pour assurer la viabilité, à long terme, de sa remarquable diversité biologique. La proposition d'inscription de 1993, qui portait sur 5,753ha a donc été révisée et le Bureau du patrimoine mondial a pu examiner, en juillet 1999, une proposition portant sur un site de plus grandes dimensions. Cette proposition a été renvoyée à l'État partie pour modification et pour définition juridique des limites. L'État partie a présenté un projet de décret présidentiel portant création d'une zone désignée de 20,202ha et ajoutant une zone tampon de 14,449ha (ci-après dénommée «zone tampon») au site candidat en 1993. Le projet de décret mentionne plusieurs points de coordonnées GPS mais aucune carte n'est jointe.

Le SPSRNP est constitué de diverses formations, dont la plus impressionnante est le paysage karstique montagneux de la chaîne de St Paul. La topographie est variée: plaines, hinterland et collines ondulant et sommets de montagnes. Le parc est constitué à plus de 90% de crêtes karstiques acérées entourant le Mont St Paul qui, lui-même, fait partie d'une série de sommets calcaires arrondis, alignés sur un axe nord-sud le long de la côte occidentale de Palawan. Les caractéristiques naturelles de la région sont remarquables et l'UICN a déjà estimé qu'elles satisfont aux critères (iii) et (iv) du patrimoine mondial. Toute la région est centrée sur un paysage karstique spectaculaire qui comprend une rivière souterraine de 8,2km de long et qui est parmi les plus exceptionnels au monde. La rivière souterraine contient de nombreux spéléothèmes et l'on trouve de nombreuses grandes salles atteignant jusqu'à 120m de large et 60m de haut. La montagne calcaire présente de nombreuses caractéristiques karstiques en surface (pinacles, puits, dolines et collines calcaires), ainsi qu'un réseau fluvial souterrain étendu. L'une des caractéristiques distinctives de la rivière est le fait qu'elle se jette directement dans la mer, et que sa partie inférieure est saumâtre et soumise à l'influence des marées. La rivière souterraine (la Cabayugan) prend sa source à environ 2km au sud-ouest du Mont St Paul, et s'écoule sous terre sur la quasi totalité de sa longueur pour se jeter dans la baie de St Paul. Toutes les rivières et leurs affluents figurent dans la demande d'inscription du SPSRNP, ce qui est important du point de vue des impacts, au niveau du bassin versant, sur la qualité des eaux de la rivière Cabayugan.

Il existe également des forêts de plaine, karstiques et calcaires. Environ deux tiers du site désigné sont couverts de forêts, où les espèces décidues dominent. La forêt karstique se limite à de petites poches où un sol fertile s'est développé. Dans la zone côtière, l'on trouve également des mangroves, des forêts de mousse, des herbiers marins et des récifs coralliens. L'importance de la diversité biologique forestière au sein du site désigné est détaillée dans la Section 3 du présent rapport. de nombreux évaluateurs ont estimé que la baie d'Ulugan, qui fait partie du SPSRNP, est d'importance nationale pour sa forêt de mangrove. La diversité de la faune dans le SPSRNP est moyenne, surtout en ce qui concerne les invertébrés. Parmi les mammifères endémiques, l'on trouve le tupaie de Palawan, le porc-épic de Palawan et le blaireau des Philippines. Des dugongs ont été remarqués dans le secteur marin du parc. On y trouve également le varan et des tortues de mer. L'éperonnier Napoléon (espèce menacée au niveau international) a également été décrit dans le SPSRNP. La faune souterraine n'a pas été étudiée en détail, mais elle comprend poissons, crevettes, serpents et insectes. Les galeries et salles de la rivière souterraine abritent d'importantes populations de salanganes et de chauves-souris. Huit espèces de chauves-souris sont également dénombrées dans la grotte, et les salanganes utilisent certains des piliers souterrains pour y nicher. Des recherches plus approfondies sont nécessaires pour établir l'étendue et la diversité de la faune souterraine.

### **3. COMPARAISON AVEC D'AUTRES AIRES PROTÉGÉES**

La Rivière souterraine de St Paul a des qualités géomorphologiques analogues à celles d'autres régions calcaires de l'Asie du Sud et du Sud-Est, comme le Parc national de Gunung Mulu au Sarawak, la Réserve naturelle de Phong Nha et la baie de Ha Long au Viet Nam, le Parc national de Lorentz en Irian Jaya et Gomantong en Malaisie orientale.

La grande majorité des sites karstiques inscrits au patrimoine mondial se situent dans des zones tempérées. Au sein de la région karstique tropicale, les comparaisons suivantes peuvent être faites. La baie de Ha Long, au nord du Viet Nam, présente une topographie karstique particulière ainsi que des grottes, dans un paysage côtier spectaculaire. Si ce site n'a pas été proposé sur la base de ces caractéristiques, le potentiel des caractéristiques karstiques pour le



patrimoine mondial a cependant récemment été réexaminé. La plupart des grottes de la baie de Ha Long sont petites comparées à la Rivière souterraine de St Paul, mais elles présentent des caractéristiques accessoires en ce qu'elles sont des témoins importants du changement du niveau de la mer sur la plate-forme continentale de la Sonde. En Thaïlande, les Sanctuaires de faune de Thung Yai-Huai Kha Khaeng abritent de grandes étendues de forêt riveraine de plaine et d'autres types de forêt plutôt typiques des climats tropicaux à forte saisonnalité. Ce Bien comprend un terrain calcaire à bas relief avec quelques grottes, ainsi que des zones humides karstiques.

La principale caractéristique du site désigné est sa rivière souterraine longue de 8km. Il existe de nombreuses rivières souterraines dans d'autres régions karstiques à travers le monde. Par exemple, la grotte Clearwater et la rivière Melinan, longue de 37km, dans le Parc national de Gunung Mulu au Sarawak ont des rivières souterraines plus importantes. Aux Philippines même, une grotte de rivière de 9km se trouve à Callao, sur l'île de Luzon. La rivière souterraine de St Paul n'est pas aussi impressionnante que les formations analogues dans d'autres sites déjà inscrits au patrimoine mondial comme Skocjanske Jama en Slovénie, la grotte de Mammoth Cave au Kentucky ou les grottes de Castleguard ou de Maligne River dans les Rocheuses canadiennes.

L'une des caractéristiques qui distingue toutefois St Paul, c'est le fait que la rivière souterraine se jette directement dans la mer, au milieu d'un paysage côtier tropical et subit, en conséquence l'influence des marées. Cette caractéristique est exceptionnelle. L'un des évaluateurs a également noté que St Paul mérite une attention particulière tout simplement parce qu'il s'agit de l'une des rares rivières de ce type que le grand public a la possibilité d'admirer facilement.

Il existe un autre site du patrimoine mondial dans la Province biogéographique de Palawan : le Parc marin du récif de Tubbataha. Cependant, ce dernier protège d'autres caractéristiques que celles identifiées à St Paul. Palawan est une province biogéographique importante, avec de riches biotes provenant tant de Malaisie que du Pacifique. Palawan se distingue du reste de l'archipel philippin car elle se situe dans le détroit de la Sonde, et que la plus grande partie de sa faune est originaire de Bornéo au cours de périodes géologiques récentes.

La diversité biologique de ce site est jugée considérable. La forêt humide de Palawan, qui fait partie de la demande d'inscription, figure sur le rapport Global 200 du WWF comme ayant la flore sylvestre la plus riche d'Asie, avec un taux élevé d'endémisme régional ou local. La forêt humide de Palawan possède également les exemples les plus étendus et les plus riches de forêt calcaire en Asie. Le Parc national de St Paul figure également dans récente une étude globale des aires forestières protégées sur la Liste du patrimoine mondial (UICN, 1997), en tant qu'aire forestière protégée méritant d'être examinée pour inscription au patrimoine mondial. Ceci a encore été appuyé dans une réunion consultative d'experts consacrée aux forêts du patrimoine mondial, qui a eu lieu en décembre 1998 à Sumatra. La réunion en concluait que St Paul est un site de forêt tropicale d'une grande diversité biologique est d'un grand potentiel pour le patrimoine mondial. L'importance de cette forêt pour la conservation à l'échelon international est encore soulignée si l'on considère l'important degré de déforestation passée et actuelle aux Philippines et dans la région. À titre d'exemple, le Centre d'assistance juridique en droit de l'environnement (ELAC) de Puerto Princesa constate «qu'en 1903, il y avait plus de 21 millions d'hectares de forêt aux Philippines, soit plus de la moitié de la superficie du pays. Aujourd'hui, il reste moins de 6 millions d'hectares de forêt. En 1994, il ne restait que 800 000 hectares de forêts anciennes». En fait, Palawan a été décrite comme «la dernière

chance» pour la conservation de la forêt aux Philippines. Dans ce contexte, le rôle et la conservation du site de St Paul revêtent une importance particulière.

Les composantes marines du site ne représentent qu'une petite partie, bien qu'importante, de la demande d'inscription; le marais de mangrove, près des collines calcaires, ajoute à ce qui est déjà un cadre naturel spectaculaire.

En conclusion, le SPSRNP présente un certain nombre de caractéristiques qui, ensemble, le distinguent d'autres sites. Parmi celles-ci :

- ◆ La rivière souterraine qui se jette directement dans la mer dans un cadre de forêt tropicale, avec l'influence des marées qui en découle;
- ◆ Les forêts comprises dans la demande d'inscription, représentatives de la forêt humide de Palawan, sont parmi les plus significatives; de nombreux rapports d'experts estiment qu'elles ont le potentiel nécessaire pour figurer au patrimoine mondial;
- ◆ Le fait que ce site soit le plus important pour la conservation dans la Province biogéographique de Palawan; enfin
- ◆ Le fait que la demande d'inscription comprenne un écosystème complet, «des montagnes jusqu'à la mer».

## 4. INTÉGRITÉ

### 4.1. Limites

Un décret présidentiel porte création du site désigné de 20 202 hectares sous le nom de Parc naturel souterrain de St Paul, en vertu de la Loi NIPAS de 1992. Le décret mentionne des coordonnées GPS précises décrivant la région désignée. Celle-ci figure sur la carte<sup>2</sup> et comprend des terres qui se trouvent à l'intérieur des limites de trois Barangays (le barangay est une limite administrative locale).

Deux points importants ont été soulignés par la mission d'évaluation de 1999. Premièrement, le motif pour différer la première demande d'inscription était d'assurer une protection adéquate du bassin hydrographique de la rivière souterraine, et donc des caractéristiques naturelles, particulièrement celles relatives à la qualité et à la quantité des eaux de la rivière souterraine. Cette rivière et ses affluents sont tous situés au sein du Barangay de Cabayugan. Il s'agit donc de la zone critique pour protéger toute caractéristique potentielle pour le patrimoine mondial. Le Barangay Marufinas voisin comporte également une importante diversité biologique, et ce particulièrement pour la conservation des forêts. Les caractéristiques naturelles des autres Barangays, bien qu'importantes, sont moins particulières dans le cadre d'une inscription potentielle au patrimoine mondial, ces zones n'étant pas essentielles pour la protection du bassin hydrographique de la rivière souterraine et moins importantes pour la conservation de la diversité biologique. L'UICN constate donc que le site candidat se limite à la zone centrale du parc et aux Barangays limitrophes (Tagabinet, Cabayugan et Marufinas).

Il est également à noter que la baie d'Ulugan, sans que l'UICN lui reconnaisse le potentiel de satisfaire aux critères du patrimoine mondial, est très importante pour la conservation des

mangroves à l'échelon national. Cette importance devrait être reconnue, éventuellement par une inscription en tant que site Ramsar, si l'Etat partie en convient.

Deuxièmement, la demande d'inscription note qu'une consultation avec les principaux acteurs concernés au sein du site désigné a eu lieu en décembre 1997. Cependant, la mission d'évaluation qui a eu lieu en février 1999 a constaté que les Barangays concernés n'étaient pas clairement favorables à l'inclusion de terres au sein du site candidat au patrimoine mondial. L'État partie a alors organisé de nouvelles consultations pour régler la question. Les trois Barangays limitrophes du Parc national de la rivière souterraine de St Paul ont communiqué des résolutions officielles dans lesquelles ils consentent à inclure leurs secteurs respectifs dans le site dont les limites ont été révisées.

## **4.2. Statut juridique**

L'évaluation précédente de l'UICN recommandait de différer la demande jusqu'à ce qu'une définition juridique des limites soit disponible. Une protection juridique claire des caractéristiques naturelles est essentielle avant que le site désigné puisse être examiné pour inscription au patrimoine mondial. Les limites du site désigné sont portées dans un décret présidentiel qui déclare le site désigné protégé en vertu de la Loi 7586 de la République (Loi NIPAS de 1992).

L'UICN a également constaté que, juridiquement, le propriétaire du Parc est la Municipalité de Puerto Princesa, en vertu d'un Accord de dévolution passé entre les autorités locales et le Gouvernement national. De par cet Accord, le maire de la ville est seul responsable du bien, et toutes les décisions relatives à la gestion du Parc sont prises en consultation avec le Conseil de gestion des aires protégées (PAMB). Cet accord signifie que le site est protégé au niveau local plutôt que national. Ces dispositions se sont à ce jour avérées efficaces, reflétant un fort soutien à l'échelon politique local, particulièrement en la personne du Maire. Si ce site est inscrit au patrimoine mondial, l'UICN estime important que l'état des ressources naturelles soit efficacement contrôlé à long terme, afin d'assurer qu'elles ne soient pas compromises par un changement d'orientation de la gestion locale, qui pourrait se produire à l'avenir.

## **4.3. Gestion**

La gestion doit être examinée à deux échelons : au niveau de la zone centrale, et au niveau de la zone tampon. La gestion de la zone centrale (qui inclut le Parc) est actuellement très efficace, reflétant un fort soutien politique à l'échelon local, ainsi que des ressources financières et humaines adéquates. Les revenus provenant du tourisme sur le site sont en augmentation; les bénéfices sont déposés dans une fondation, déduction faite des dépenses consacrées à la gestion du parc. St Paul est le seul Parc national aux Philippines à faire ainsi des bénéfices. Le nombre d'employés est suffisant, mais une meilleure formation à la planification et à la gestion des aires protégées est nécessaire. La gestion actuelle du parc s'appuie sur les bases de travaux antérieurs, entamés notamment lorsque le parc a fait l'objet, en 1989, d'un financement international par le biais d'un Programme «échange dette-nature» du WWF-Fonds mondial pour la nature.

Il existe pour le Parc un plan de gestion qui fixe les objectifs et les programmes nécessaires à une gestion efficace du Parc. Ce plan prévoit un zonage au sein des limites du Parc. L'UICN estime que le plan de gestion du Parc est un document professionnel, mais que de plus amples ressources sont nécessaires à sa mise en œuvre complète.

La gestion de la zone tampon est régie par des directives de gestion visant à réglementer les activités de façon à limiter l'impact sur la zone centrale. Ces directives sont en cours d'élaboration par le PAMB avec l'assistance du Programme du Conseil de l'Europe pour la forêt tropicale de Palawan (EC-PTFPP), qui vise à établir des mesures de protection durables du terrain agricole au sein de la zone tampon. Elles visent en outre à introduire des mesures pour protéger les ressources naturelles tout en améliorant la qualité de vie des habitants de cette zone. L'UICN estime que les plans de gestion actuels de la zone centrale d'une part, et les directives de gestion de la zone tampon d'autre part, devraient être consolidés et harmonisés afin de protéger efficacement le bassin hydrologique de la rivière souterraine. Il est à noter qu'une telle harmonisation est déjà en cours, ce qui est méritoire.

#### **4.4. Menaces**

La zone centrale du SPSRNP est en butte à plusieurs menaces provenant des activités dans le bassin hydrographique attenant. Les principales menaces sont le défrichement des forêts et l'agriculture. Le tourisme, s'il n'est pas planifié et géré avec soin, pourrait avoir un impact potentiellement désastreux sur les ressources naturelles de la zone centrale. A l'heure actuelle, le tourisme est rare, bien qu'en augmentation. Les objectifs de gestion touristique du Parc, fixés dans le plan de gestion, semblent judicieux et efficaces. Il est important qu'une stratégie de développement touristique soit élaborée pour la totalité du site désigné (zones centrale et tampon), qui souligne l'intérêt du site pour les visiteurs de même que la protection de ses caractéristiques naturelles. La qualité des eaux de la rivière souterraine est inévitablement affectée par les activités agricoles dans le bassin versant, en amont. L'équipe d'évaluation de l'UICN a pu le constater en 1999. Les directives de gestion susmentionnées devraient également traiter des questions telles l'élimination des sources de pollution de la rivière.

### **AUTRES COMMENTAIRES**

#### **5.1. Intégration régionale**

Le site désigné démontre l'importance d'une planification régionale intégrée, si l'on s'attache à la protection des valeurs pour le patrimoine mondial. Il est à noter que l'ensemble de la province de Palawan est régie par un Plan intégré de conservation et de développement. Au sein du site désigné, le Programme pour la protection de la forêt de Palawan traite nombre des questions susmentionnées dans la zone tampon.

#### **5.2. Patrimoine culturel**

La grotte de St Paul est connue des autochtones depuis des temps reculés; la légende prétend qu'elle serait habitée par un esprit qui les empêcherait de pénétrer dans la grotte. Le parc et ses environs sont les terres ancestrales des communautés Batak et Tagbanua. Les besoins des communautés locales sont prises en considération dans l'élaboration des directives de gestion susmentionnées.

#### **5.3. La baie d'Ulugan**

Cette zone est comprise dans le site désigné, et se compose de forêts de mangrove à divers stades de conservation. L'on estime que 15% des mangroves des Philippines sont situées dans la baie d'Ulugan. La mission de l'UICN a également pris note d'une proposition d'établir une

base navale, menace potentielle pour la baie d'Ulugan. Cette zone est jugée d'importance nationale, et l'UICN estime qu'elle pourrait constituer un site Ramsar. L'Etat partie devrait se pencher sur cette question.

#### **5.4 Recommandation pour la vingt-deuxième réunion du Bureau: juillet 1999**

Le Bureau a noté que le site répond aux critères naturels (iii) et (iv). Le Bureau a cependant décidé que la proposition d'inscription devrait être renvoyée à l'État partie pour modification et pour y apporter une définition juridique des limites, qui devraient comprendre la zone la plus importante pour la protection du bassin hydrographique de la rivière souterraine ainsi que pour la conservation de la diversité biologique. Comme nous l'avons dit, l'État partie a soumis au Centre du patrimoine mondial, le 15 septembre 1999, un projet de décret présidentiel dans lequel sont mentionnées des coordonnées GPS.

### **6. CHAMP D'APPLICATION DES CRITÈRES NATURELS DU PATRIMOINE MONDIAL**

Le SPSRNP est proposé au titre de trois critères naturels. Le rapport d'évaluation de 1993 de l'UICN considérait que ce site répondait à deux critères naturels : le critère (iii) en vertu de son paysage karstique spectaculaire, avec sa rivière souterraine et ses grottes, et le critère (iv) parce qu'il abrite nombre d'espèces rares et endémiques. Le présent rapport conforte celui de 1993, avec les commentaires suivants quant aux trois critères naturels en vertu desquels a été proposé le SPSRNP :

#### **Critère (ii): processus écologiques**

Le SPSRNP offre des exemples d'importants processus écologiques en cours. L'UICN considère que cette importance est d'ordre régional plutôt qu'international; elle estime que le site désigné ne satisfait pas au critère naturel (ii).

#### **Critère (iii): phénomènes naturels exceptionnels, beauté naturelle exceptionnelle**

La chaîne de montagnes de St Paul représente un paysage karstique saisissant. La rivière souterraine, qui se jette dans la mer et subit ainsi l'influence des marées, en fait un phénomène naturel exceptionnel. L'UICN estime que le site désigné répond au critère (iii).

#### **Critère (iv): diversité biologique et espèces menacées**

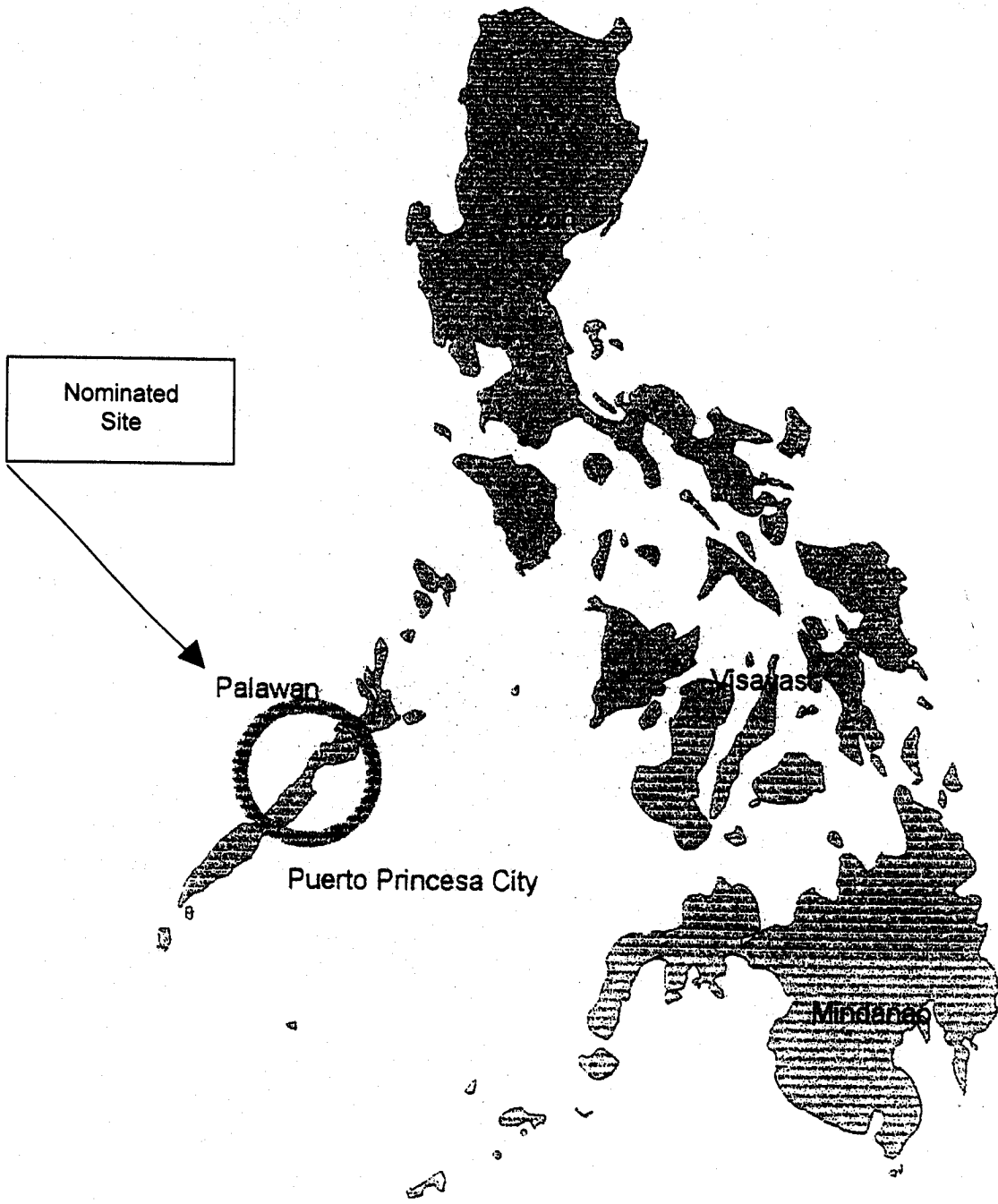
Le site désigné représente un habitat important pour la conservation de la diversité biologique. Le SPSRNP comprend un écosystème montagne-mer complet et abrite la zone forestière la plus étendue de la Province biogéographique de Palawan. L'UICN estime que le site désigné répond au critère naturel (iv).

## 7. RECOMMANDATION

Que le Bureau recommande au Comité d'**inscrire** le Parc national de la rivière souterraine de St Paul sur la Liste du patrimoine mondial au titre des critères naturels (iii) et (iv), sous réserve de la signature d'un décret présidentiel et de la mise à disposition d'une carte du site au moment où le Comité se réunira, en novembre 1999. Le Bureau devrait féliciter le gouvernement des Philippines sur deux points:

- ◆ le processus de consultations entrepris avec les autorités pertinentes, à savoir, les Barangays affectés;
- ◆ sa démarche concernant la gestion intégrée du territoire à l'échelle régionale dans le but de veiller au maintien des caractéristiques qui justifient l'importance du site désigné dans le patrimoine mondial.

# PHILIPPINES



Palawan

Visayas

Puerto Princesa City

Mindanao



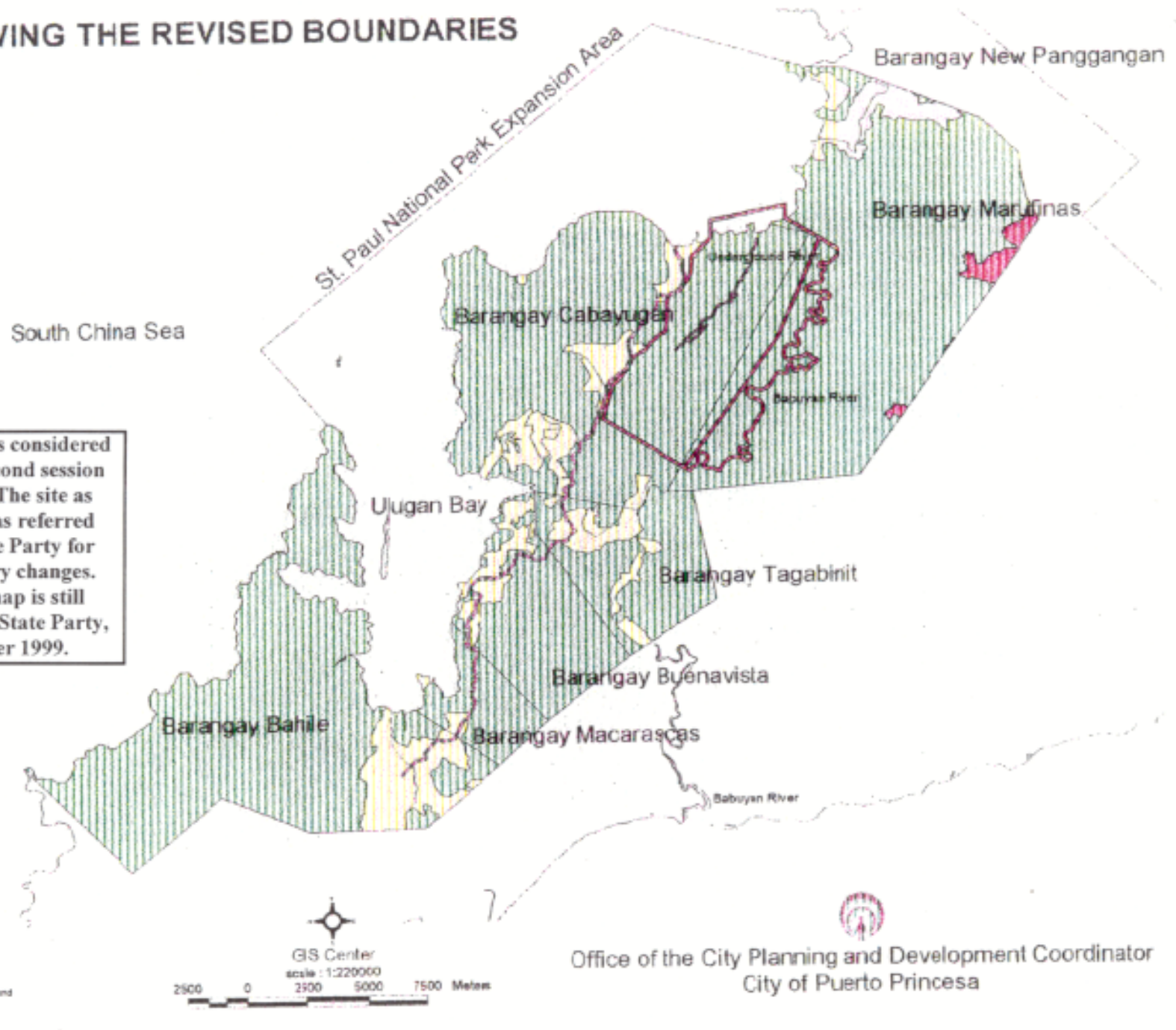
**GIS Center**

Office of the City Planning and Development Coordinator  
CITY OF PUERTO PRINCESA

Map 1. Location of Nominated Site

# MAP SHOWING THE REVISED BOUNDARIES

Nomination site as considered by the twenty-second session of the Bureau. The site as outlined here was referred back to the State Party for further boundary changes. The final site map is still awaited from the State Party, as at 6 October 1999.



Map 2. Nominated Site