



Guidebook to Protected Areas of the Philippines

GUIDEBOOK TO PROTECTED AREAS OF THE PHILIPPINES



**BIODIVERSITY MANAGEMENT BUREAU
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES**

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Department of Environment and Natural Resources

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Republic of the Philippines
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
Quezon City

M E S S A G E

Greetings from the Department of Environment and Natural Resources (DENR)!

As stewards of the country's rich biological resources, we are privileged to see up close the treasures that make up the country's natural capital. Where else can you find one of the world's most majestic eagles? Where can you encounter one of the world's smallest and most endangered water buffalo? Where is one of the most and diverse marine ecosystems in the world? These and many other natural wonders make up the unique environment of the Philippines.

Our wildlife and their habitats are not only wonderful to look at, but they also provide vital services and benefits to humankind. The animals, plants, organisms, and ecosystems that constitute the nation's biodiversity combine to provide clean air and water, food, medicine, clothing and housing materials, moderate our climate, support the foundation of the country's economy and industry, and generate livelihoods for millions. Our interrelationship with the environment is also evident in Filipino culture, with natural elements interwoven into myths and legends, music and the arts.

Increasing pressures, however, from deforestation, habitat loss, pollution, climate change, and many others, threaten the integrity of the country's ecosystems and the wildlife they harbor. We are in a race to protect the country's biodiversity, and various approaches are currently in place to ensure that more generations of Filipinos will continue to see the magnificent creatures as well as the exceptional landscapes and seascapes found in our shores.

Ecotourism is a vital approach in protected and natural resources management, providing benefits to all involved – tourists looking for a breath of fresh air, local communities that nurture nature destinations, protected area managers and personnel tasked with the conservation of increasingly fragile natural resources, and more importantly, the wildlife and ecosystems that require protection and care.

The ***Guidebook to Protected Areas of the Philippines*** is a step towards increasing ecotourism to the country's protected areas. There are 240

protected areas under the National Integrated Protected Areas System (NIPAS) covering a total area of about 5.45 million hectares, or 14.2 percent of the total area of the country. The book highlights a mere fraction of the country's protected area system, featuring initial components of the NIPAS, Philippine ASEAN Heritage Parks, and the home of the Biodiversity Management Bureau, the main DENR agency tasked with the conservation of the nation's biodiversity.

The book highlights the biodiversity richness, research and conservation programs, and ecotourism destinations and activities one can enjoy in the parks. Envisioned as the first of a series, the publication will eventually feature all Philippine protected areas, so that more people can appreciate the natural beauty of our country, and contribute to the conservation of our rich and increasingly rare biodiversity.

I invite everyone to enjoy the ***Guidebook to Protected Areas of the Philippines***. See more of what the Philippines has to offer and enjoy your trip to the country's most precious natural areas!



Ramon P.J. Paje
Secretary

Department of Environment and Natural Resources



Republic of the Philippines
S E N A T E
Pasay City

M E S S A G E

The world in the 21st century faces daunting environmental challenges. And one of the major issues that confront the entire nation is the continuing need to protect and preserve our biodiversity in the midst of rapidly dwindling natural resources.

The Philippines is considered as one of the world's megadiverse countries, a group of nations hosting two-thirds of the earth's biodiversity and about 70-80% of the world's plant and animal species. However, our forests, oceans and mineral deposits have come under intense human threat because of continuous neglect and exploitation.

The most crucial step towards building a sustainable community, one that respects biodiversity, is to correct one of the biggest misconceptions about the environment—that natural resources are infinite.

This guidebook by the Biodiversity Management Bureau of the Department of Environment and Natural Resources is a showcase of our country's natural wealth. Not only does this remind us of the natural blessings that our country is endowed with, but it also urges us to veer away from the path of apathy, to act responsibly now before it is too late.

I hope to enjoin everyone to conserve, preserve, protect and, if possible, rehabilitate the natural resources that have been damaged by irresponsible acts. Now is the time to do our share, for the greater benefit and welfare of the present and future generations.

Let us all be worthy and responsible stewards of the Earth.

A handwritten signature in black ink, appearing to read "Loren Legarda".

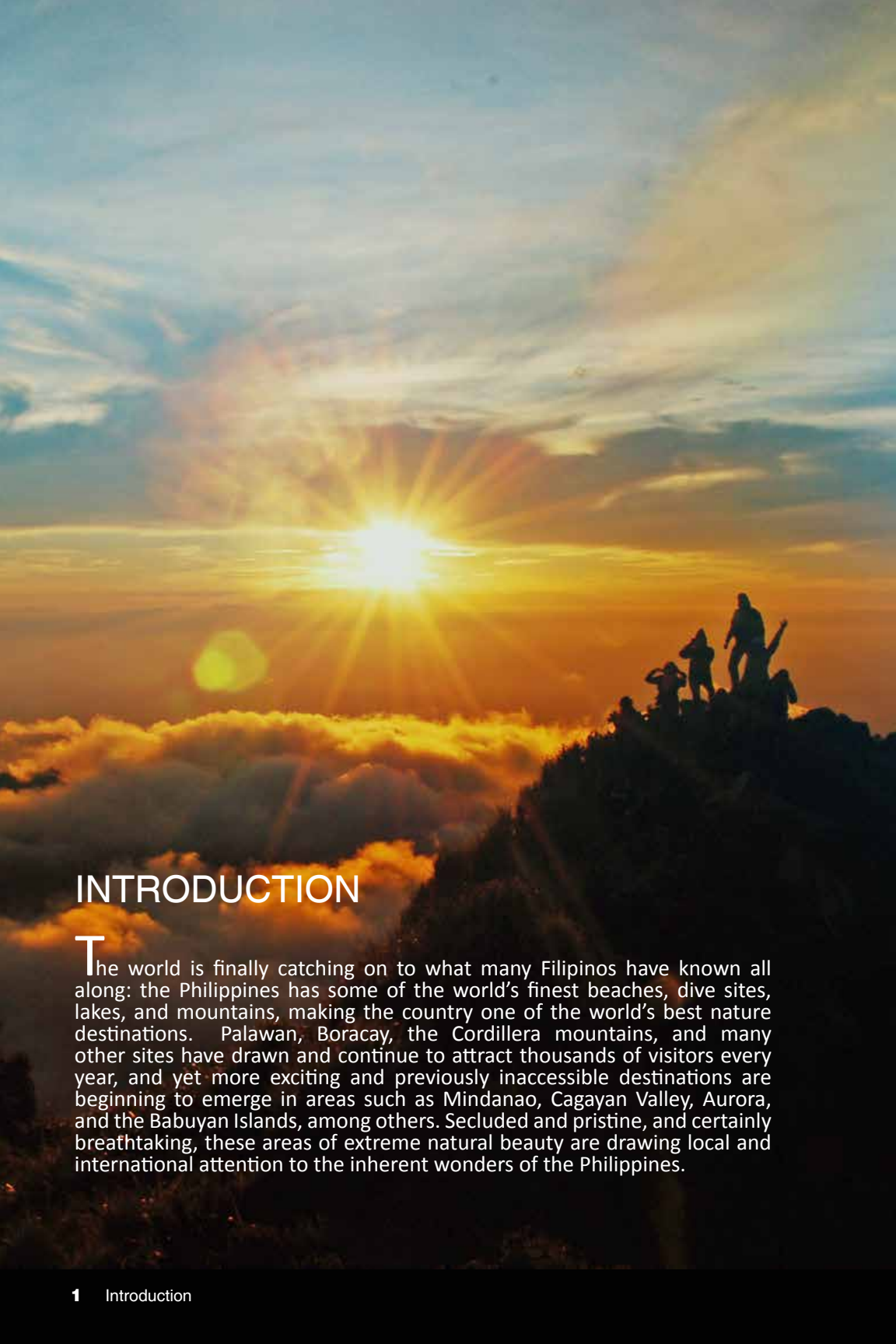
Senator Loren Legarda

Chairperson, Senate Committee on Environment and Natural Resources
Chairperson, Senate Committee on Climate Change
Chairperson, Senate Committee on Cultural Communities
UNISDR Champion for Disaster Risk Reduction and Climate Change
Adaptation for Asia-Pacific

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INTRODUCTION

The world is finally catching on to what many Filipinos have known all along: the Philippines has some of the world's finest beaches, dive sites, lakes, and mountains, making the country one of the world's best nature destinations. Palawan, Boracay, the Cordillera mountains, and many other sites have drawn and continue to attract thousands of visitors every year, and yet more exciting and previously inaccessible destinations are beginning to emerge in areas such as Mindanao, Cagayan Valley, Aurora, and the Babuyan Islands, among others. Secluded and pristine, and certainly breathtaking, these areas of extreme natural beauty are drawing local and international attention to the inherent wonders of the Philippines.

It is important to note, however, that these areas are not just picturesque, but are also storehouses of overflowing biodiversity. The more than 7,100 islands of the Philippines harbor some of the richest ecosystems and species in the world.

The Philippines is one of the world's 17 megabiodiversity countries that together contain two-thirds of the earth's biodiversity and around 70 to 80 percent of the world's plant and animal species. It is also located within the Coral Triangle, at the center of the highest marine diversity in the world, which accounts for the rich and colorful marine life that scuba divers have come to expect from Philippine waters. Scientists have noted that there is a higher concentration of species per unit area in the Philippines than anywhere in Indonesia and Wallacea, and that the Philippines is the center of the center of marine shore fish diversity in the world. There are even more figures that testify to the rich natural heritage of the country, with a staggering number of species that are endemic, or cannot be found anywhere else in the world. It is sufficient to say that the wealth of biodiversity found in the country is beyond imagination and comparable to the best that the world can offer.

As repositories of rich natural capital, much of the country's best nature destinations have become protected under various environmental laws, and are managed under the National Integrated Protected Areas System (NIPAS). These ensure that the country's unspoiled forests, lakes and beaches are protected, so that future generations may continue to enjoy the benefits from species and wildlife found in these areas.



Photo by Eric Madeja



As of 2013, there are 240 protected areas covering 5.45 million hectares under NIPAS. These encompass 14.2 percent of the total area of the country, and include 4.07 million hectares of terrestrial (13.57 percent of total area of the country) and 1.38 million hectares of marine areas (0.63 percent of total area of the country). About 26 percent of the country's remaining forests are found in protected areas.

The **Guidebook to Protected Areas of the Philippines** aims to bring attention to lesser known sites endowed with extreme beauty, and rich natural and cultural history. Under the mandate of NIPAS Act, these sites implement ecotourism approaches and practices, thus, ensuring that travel benefits the environment, protected area management, communities that surround the protected area, businesses conducting various operations related to the park, and many other stakeholders. Visiting protected areas allows travelers to contribute to conservation, as revenues are used for conservation management and action, monitoring and evaluation of interventions, research in wildlife and protected area management, patrolling of the protected areas, law enforcement, and other activities.



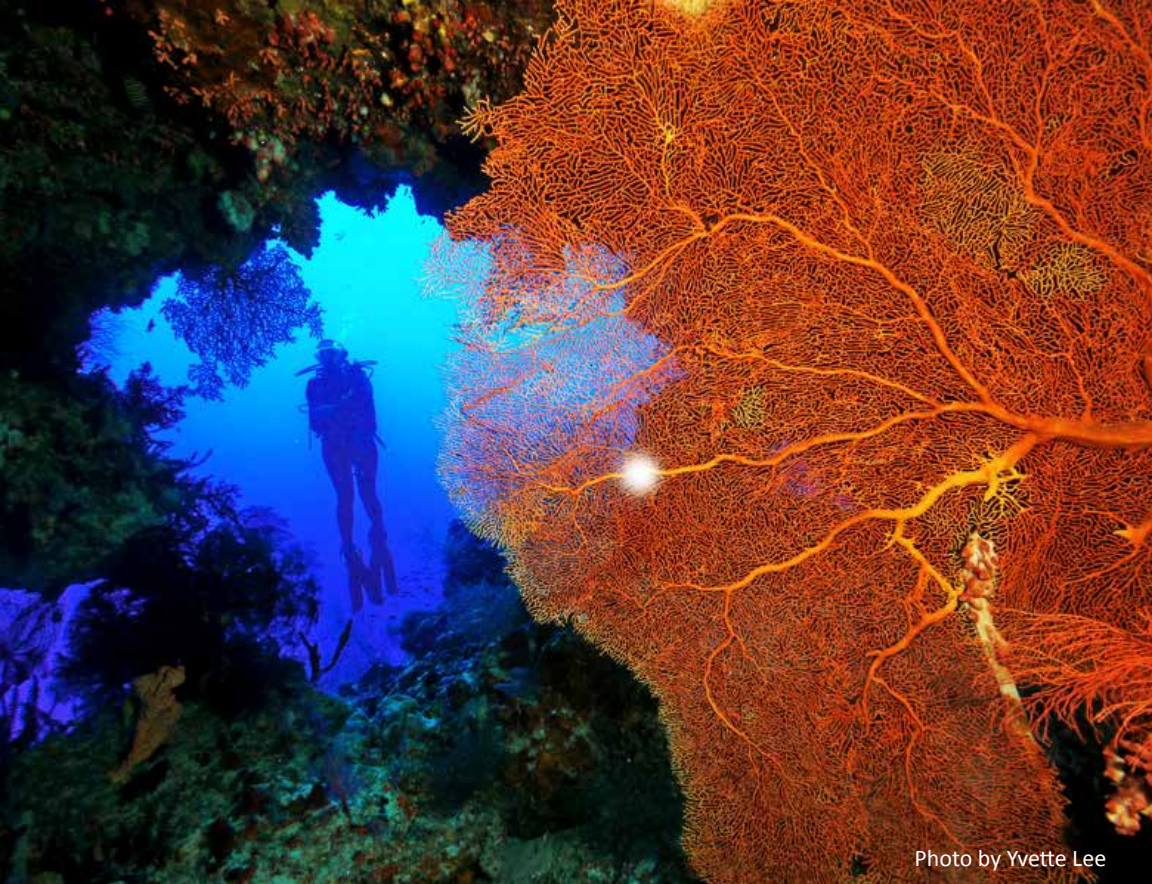
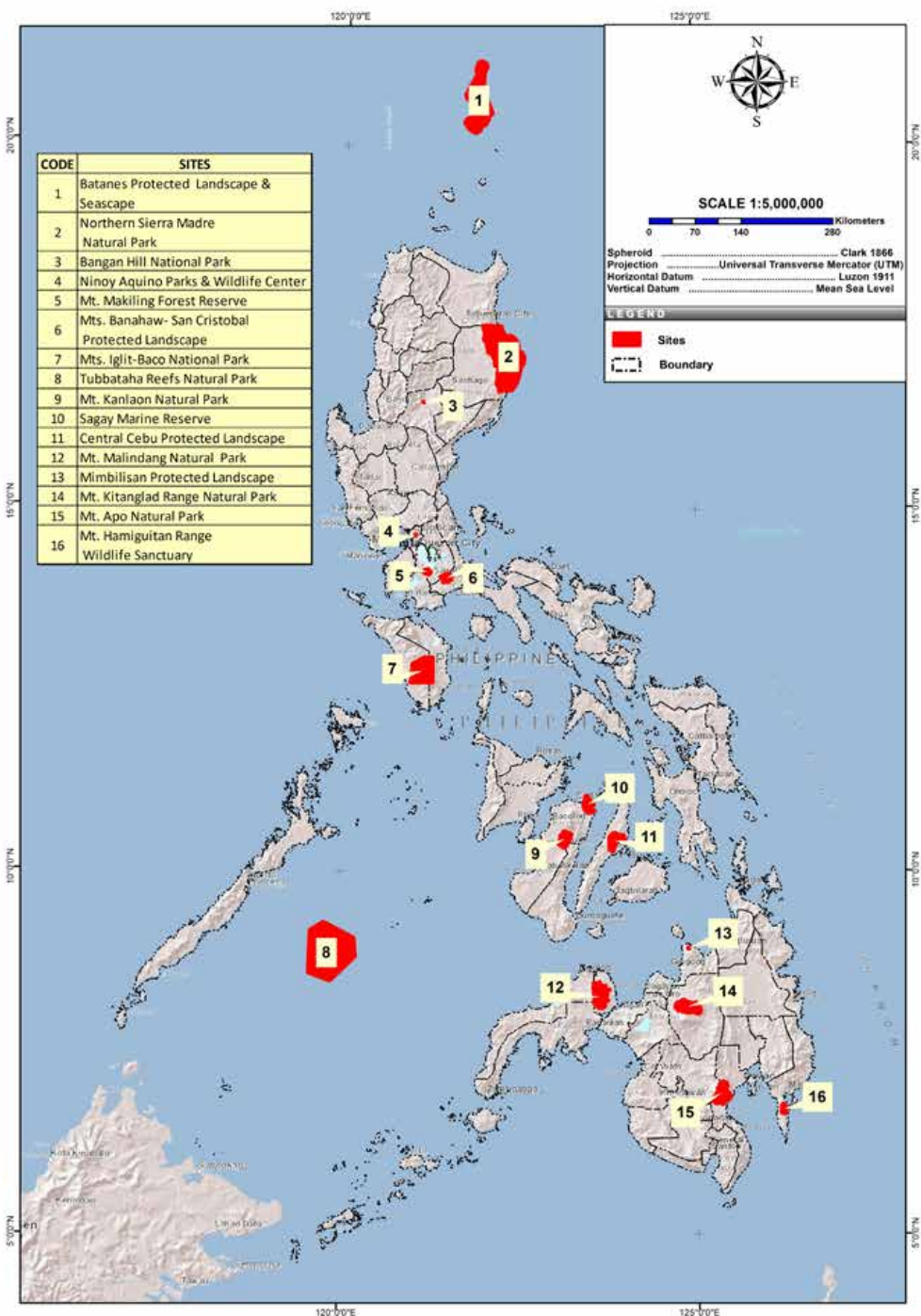


Photo by Yvette Lee

Starting with 16 sites, the Guidebook aims to highlight the environmental, historical, and cultural significance of the Philippines' protected areas. Descriptions of unique and endemic species, rare geological formations, and rich habitats attest to the areas' need for protection. The profiles also feature possible recreational pursuits since ecotourism, after all, is all about enjoying nature at its finest. Thus, the book illustrated points of interest and things to do, including hiking, birdwatching, diving, and swimming in waterfalls and long stretches of white sandy beaches, which are sure to rouse the interest of any traveler.

The **Guidebook to Protected Areas of the Philippines** will eventually cover all Philippine protected areas, hoping to instill greater pride in the country's natural assets, awareness of the treasures within and the benefits they provide, and foster increased contribution to their conservation.



The Philippine map showing the location of the Protected Areas featured in this Guidebook.



**Ninoy Aquino Parks and
Wildlife Center**



The Ninoy Aquino Parks and Wildlife Center (NAPWC) lies in the heart of Quezon City. It serves as an oasis in a highly urbanized environment where various species of flora and fauna can be found.

The 22.7-hectare NAPWC is under the management and administration of the Biodiversity Management Bureau (BMB), a staff bureau of the Department of Environment and Natural Resources (DENR), responsible in managing the country's Protected Area System and providing directions for the conservation of the nation's biodiversity. Its offices are integrated to the overall landscape of the Park.

The NAPWC envisions to be a world-class ecotourism destination and a venue for biodiversity conservation and education on Philippine endemic and rare wild flora and fauna. Its mission is to provide a broad spectrum of outdoor recreational and ecotourism opportunities with areas to play, appreciate the nature and gain delightful experiences.

All year round, the Park becomes the venue for various educational, scientific, civil, religious and recreational activities as well as orchid shows, garden and science fairs as it provides facilities conducive for such events.

Region: National Capital Region

Province: Metro Manila

City/Municipality: Quezon City

Area: 26 hectares

Year/Date of Establishment:
1954; 2004

Legal Instrument:
Proc. No. 723 (25 October 2004)

Thriving urban biodiversity

Originally a grassland, the Park is now covered with various species of plants, which includes both endemic and introduced species. It boasts a total of more than 4,000 trees, which may be attributed to tree planting activities for the past years. The wide array of plant species includes carabao grass (*Paspalum conjugatum*), narra (*Pterocarpus indicus*) and rain tree (*Samanea saman*), among others.

Based on the 2008 survey by the Philippine Native Plants Conservation Society, Inc. (PNPCSI), out of 135 plant species recorded in the Park, seven (7) are found to be endemic to the country, including katmon (*Dillenia philippinensis*), kamatog (*Sympetalandra densiflora*), and niyog-niyogan (*Ficus pseudopalma*). It also recorded 73 bird species, 11 reptile species, five (5) mammal species and three (3) amphibian species. Nine (9) species of fish can also be found in the lagoon, which includes tilapia, carp, mudfish, gouramy, sand goby fish (biya), catfish and silver theraponid.

Facilities for nature appreciation

Various structures and facilities can be found within the Park – from an open-air venue to a serene patch, which serve as venues for special, social and educational activities. These include the following:

- **Amphitheater**
The open-air amphitheater allows the visitors to enjoy an impressive view of the man-made lagoon and can accommodate about 500 – 600 people.
- **Tea House**
The Tea House can accommodate 40 – 50 persons and is ideal for workshops, seminars, meetings and for intimate celebrations. A whole day rent will cost PHP 800.00.
- **Fishing Village**
The Fishing Village imitates the native fishing villages in Mindanao. It includes five (5) houses on stilts at the edge of the lagoon, which can accommodate 100 – 150 persons. This venue is ideal for wedding receptions and other social functions. The rent costs PHP 1,700.00 for the whole day.
- **Picnic Sheds**
The Park offers five (5) picnic sheds which can be rented by the visitors for the whole day for only PHP 200.00.

Recorded species in the park

- 135 species of trees and shrubs
- 73 species of birds
- 11 species of reptiles
- 9 species of fish
- 5 species of mammals
- 3 species of amphibians





- **Bulwagan Ninoy**
Formerly known as the “Visitor’s Center”, this two-storey building houses several function rooms ideal for meetings, seminars and conferences. It is for official use only.
- **Gazebo**
Gazebo, an open farm-type cottage almost hidden among the lush vegetation in the middle of the lagoon, is for official use.
- **Leonard Co Native Garden**
Found within the premises of Bulwagan Ninoy, the Leonard Co Native Garden was inaugurated in honor of Leonard Co, a botanist and plant taxonomist, who had remarkable contributions in the world of botany.
- **Don Jose Sanvictores Grove**
It was established in honor of Don Jose Sanvictores, a foremost lumberman-conservationist who pioneered the practice of selective logging and the first to implement second cycle harvest in the Aras-asan Timber Co. in Eastern Mindanao.

The beauty and tranquility of the four-hectare man-made lagoon definitely captures the attention of the park visitors. Having been one of the main attractions of the Park, the lagoon also serves as habitat for nine (9) species of fish which includes tilapia, carp, mudfish, gouramy, sand goby fish (biya), catfish and silver theraponid. Its depth ranges from 3 to 15 feet.

Another popular site within the Park is the Wildlife Rescue Center. It serves as a repository and rehabilitation facility for confiscated, donated or abandoned wild animals. It serves as a venue for public education, training and research for students, biologists and researchers.

Further, the BMB offices are integrated to the overall landscape of the Park.



Indeed, the NAPWC is a haven for people from different cultures and walks of life who seek for a place where nature's beauty and simplicity coexist.

Reinforcing the NAPWC as a natural learning site for biodiversity and a botanical garden of endemic Philippine species

The BMB aims to strengthen the NAPWC's role as a learning site for biodiversity conservation and education, and to help it live up to its vision to be a world-class ecotourism destination.

Currently, the "Zero Waste Management Program" in line with the Republic Act 9003 or the Ecological Solid Waste Management (ESWM) is being implemented throughout the organization. Spearheaded by the NAPWC with the help of Mother Earth Foundation (MEF), this program aims to systematically reduce and properly manage wastes.

Part of this program is the construction of a Materials Recovery Facility (MRF), which serves as the heart and soul of ESWM. Segregated wastes are placed in this area. An integral part of the MRF, which the NAPWC takes pride in is the "Organic Vegetable Garden". Green leafy vegetables can be found here such as "petsay", "mustasa" and "malunggay".

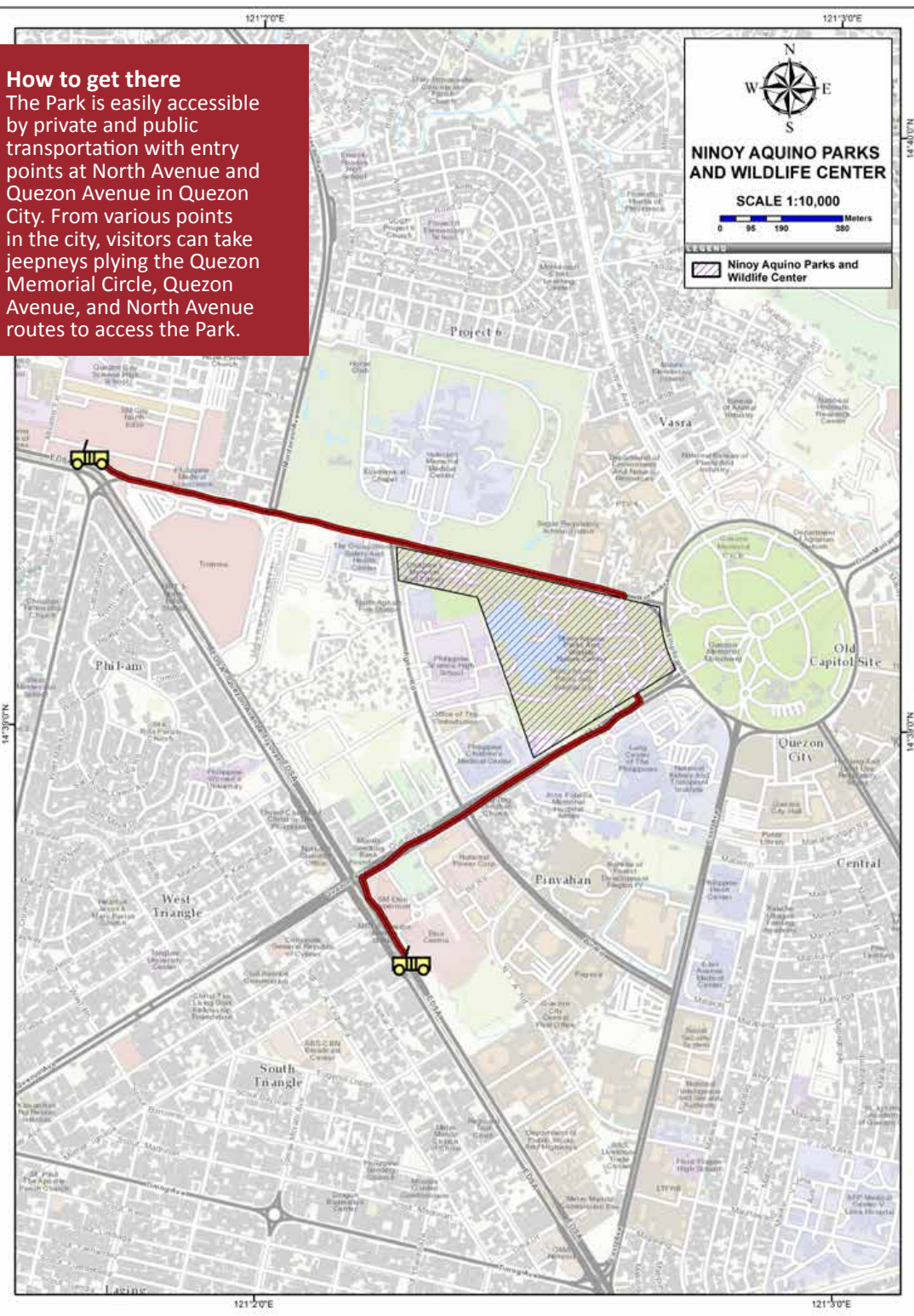
Installation art, which made use of tree stumps recovered from illegal logging operations can also be seen in the Park. This was constructed by Mr. Luis "Junyee" Lee, Jr, an artist who pioneered installation art in the Philippines.

Construction of the Protected Area (PA) Gallery is also next in line, which will provide an interactive showcase of the different aspects of biodiversity.



How to get there

The Park is easily accessible by private and public transportation with entry points at North Avenue and Quezon Avenue in Quezon City. From various points in the city, visitors can take jeepneys plying the Quezon Memorial Circle, Quezon Avenue, and North Avenue routes to access the Park.





**Batanes Protected
Landscape and Seascape**



When it comes to dream travel destinations, Batanes always seems to be on everyone's bucket list. Before, travel to Batanes was not for the faint of heart, as it involved long turbulent journeys by sea. Now, regular flights to the province make it easier to enjoy this marvel of Philippine nature and biodiversity.

The Batanes Protected Landscape and Seascape (BPLS) encompasses the entire province of Batanes, which is composed of three major islands: Batan, Sabtang, and Itbayat. It lies 190 kilometers north of Taiwan and 280 kilometers south of Aparri, Cagayan.

Incredibly unique environment

The unique and exceptional beauty of Batanes is shaped by its harsh environment and the people who have learned to understand and live with it. Amazing rock formations lie side by side with pasture and agricultural land, creating a livable environment for the Ivatans and a beautiful experience for people who come to visit.

The islands and islets of the province are either volcanic mounds or uplifted coral reef with contrasting morphological expressions. Batanes belongs to the Luzon-Taiwan volcanic belt resulting in islands formed through a combination of volcanic eruptions, reef building, and land uplift.

Region: Region II

Province: Batanes

City/Municipality: Three major islands: Batan, and the island municipalities of Sabtang and Itbayat; municipalities of Basco, Ivana, Mahatao and Uyugan on Batan.

Area: 213,578 hectares (land area of 20,323 hectares; marine area of 193,255 hectares)

Year/Date of establishment: 2001

Legal Instrument: RA 335 (24 February 1994); RA 8991 (5 January 2001)

The volcanic peaks of Mt. Iraya (1,009 meters) to the north and Mt. Matarem (458 meters) to the south dominate the landscape on Batan Island. Mt. Iraya is an extinct volcano that is dissected by narrow radial gullies with very steep slopes. Mt. Matarem is older and has less rugged terrain and lower relief. Erosion on Mt. Matarem has exposed volcanic necks and spines that form the peaks of several hills. Dramatic rock formations on the coast also abound.

Batan also features rolling pasture land with year-round green grassland shaped by indigenous agricultural technology. Cows and goats graze on neatly tended patches of fields interspersed with grazing areas on gently rolling terrain. Green bermuda grass also grows naturally everywhere, evoking images typical in temperate countries.

Mountains dominate the island of Sabtang with sharp ridges on the southern and western sides and by rolling to moderately steep hills on the eastern side. Itbayat Island has a uniform rolling terrain with higher elevations on Mt. Santa Rosa (277 meters) to the north and Mt. Riposed (299 meters).

Incomparable diversity of species

BPLS hosts a number of rare and endemic species. Out of 256 species of flowering plants, for instance, 42 are endemic to the Philippines, and seven of these can only be found in Batanes. These are *kanarem*, *riwas*, *vua*, *voyavoy*, *gagadang*, *tangaw*, and *vuhuan*. Endangered plant species in the Park include *arius*, *kamaya*, *narra*, *vayasuvras*, *vatinglaw*, *vonitan*, *waling-waling*, and *valit*. Many of these plants occur in small populations with limited distribution, and are found in specialized habitat formations.

Recorded fauna in BPLS indicate a number of recent species discoveries. These include the little bent-winged bat, common bent-winged bat, and the Oriental house rat. Two other species, the common short-nosed fruit bat and the yellow-faced horseshoe bat, are new records for Sabtang Island.

Other interesting species include the endemic yellow-faced horseshoe bat, which inhabits caves, buttresses, and other dark cavities in primary lowland forest. Interestingly, the Indochinese shrew and the Ryukyu flying fox are found in the Batanes-Babuyan faunal group and nowhere else in the Philippines, but are not endemic to the country. The Batanes-Babuyan area is the southernmost limit of the distribution of the Ryukyu flying fox with a range that extends from the Ryukyu island group in Japan to Taiwan. The Philippine population may actually be the largest for this species.

Recorded species in Batanes

- 96 species of fern and fern allies
- 251 species of flowering plants
- 9 species of mammals
- 104 species of birds





On the other hand, the Indochinese shrew is widespread on the Asian continent and many nearby associated shallow-water islands. Its ecology and biology in the Batanes is unknown but it has been recorded on Batan Island.

Indigenous knowledge nurtures biodiversity

The Ivatans are the indigenous people of the Batanes Islands. Having been inhabitants of the islands since time immemorial, the Ivatans have developed indigenous knowledge systems and practices that have allowed them to understand the unique nature of the Batanes ecosystem and adapt to its harsh environment. Their homes are specifically built to withstand strong winds and the incessant battering of rains, squalls, sea sprays, and storms. The use of natural resources is regulated through certain types of *abtas* (customary laws) and *dagen* (taboos) in both fishing and farming. Even the nature of Ivatan swidden farming allows for the cultivation of different crops within a single farm and organic fertilizers are utilized for planting of leguminous species that provide nitrogen to the soil. Some areas are also considered sacred or enchanted and thus remain untouched.

The Ivatans have also developed community-based mechanisms in environmental protection. Voluntary associations have been organized to manage conservation activities within respective locales in fishing, farming, and housing. The



mayvanuvana (fishing ritual) practiced in fishing villages during *mataw* season (when fisherfolk catch dorado) regulates gear entry and seasonal use rights in certain fish grounds. This is practiced during certain periods of the year and in effect creates a seasonal marine sanctuary. The *mayuhu* or *payuhwan* is a cooperative undertaking within the village through voluntary labor exchange in farms. The *kamanedungan* is practiced when homes are being built and is a practice similar to the *bayanihan*. *Yaro* is a voluntary community service during calamities.

So much to do, so little time

Verdant volcanic peaks, undulating terrains of grasslands, gullies and gentle valleys, rock, outcrops, uplifted marine terraces, indented embayment, sea cliff, sea caves, and white sandy beaches are just examples of the wonders to behold in Batanes. There is so much to see and enjoy that many visitors often feel a pang of regret when it is time to go back to the real world.



Wander and see the sights. There is no public transportation but vehicles and bikes are available for rent. One of the most scenic areas in Batanes is Racuh Apayaman, the communal pastureland better known as Marlboro Country. The rolling valleys, hills, and green meadows where water buffalo, horses and cattle roam freely make Batanes look like it is a different world.

Visit the lighthouses. Basco lighthouse on the main island provides a spectacular view of the sea and its surroundings. There are two lighthouses in Sabtang, one built during the Spanish colonial period and a more recent structure right beside the sea.

Many of the old stone houses are truly unique and remain intact and perhaps best exemplify Ivatan culture, history, and life. The limestone walls were a Spanish addition to strengthen native homes against earthquakes that often ravaged the island. The Ivatan home features a cogon roof and a major space shared by the entire household. A number of traditional homes remain intact on the villages of Chavayan and Savidug on Sabtang Island. The Dakay House on Sabtang, which was built in 1887 and is the lone survivor of a major earthquake in 1918, is widely regarded as the oldest house in Batanes. Sabtang also features an old village, which is being re-established by the locals. The village was abandoned in the 1940s due to a tsunami.



One of the most charming local homes is Fundacion Pacita, the home of Pacita Abad. Pacita Abad remains one of the most famous Ivatans, being an internationally-acclaimed painter who brought her art all over the world and even painted a bridge in Singapore before succumbing to cancer. Fundacion Pacita in Basco, once her home and studio, is now a premier hotel, the proceeds of which go to a foundation for young Ivatan artists. The young artists of the foundation painted the ceiling of Mt. Carmel Church in Basco.

There are also a number of 17th and 18th century churches and structures in BPLS. These churches have large, bright-colored wooden doors, machuca tiles, and cogon-lined high ceilings. One of the more significant churches is the San Carlos Borromeo Church in Mahatao, where *Katipuneros* waved their flag to claim Batanes during the Revolution in 1898. Other centuries-old churches in Batanes include Our Lady of Immaculate Concepcion Cathedral in Basco, San Jose de Obrero Church in Ivana, San Vicente Ferrer Church in Sabtang, and Sta. Maria de Mayan Church in Itbayat. There are also a number of Spanish-era bridges that are still in use. The bridges linked villages together and made it easier to travel to church, as the Spaniards encouraged the Ivatans to attend mass.



Batanes also has a number of World War II ruins. Remnants of an American radio and communication center can still be found. There is a tunnel dug by Ivatan hostages that the Japanese used to escape from the Americans.

The dramatic natural features of Batanes are a marvel to behold. Visitors can hike to the summit of Mt. Iraya for a bird's eye view of the Park. Valugan Beach, which is piled from end to end with gigantic boulders textured like quail eggs, is one of the most distinctly Batanes shores. The boulders are spewings from a 15th century eruption of Mt. Iraya. Another prominently Batanes feature is the rugged coastline and natural arch found on Nakabuang beach.

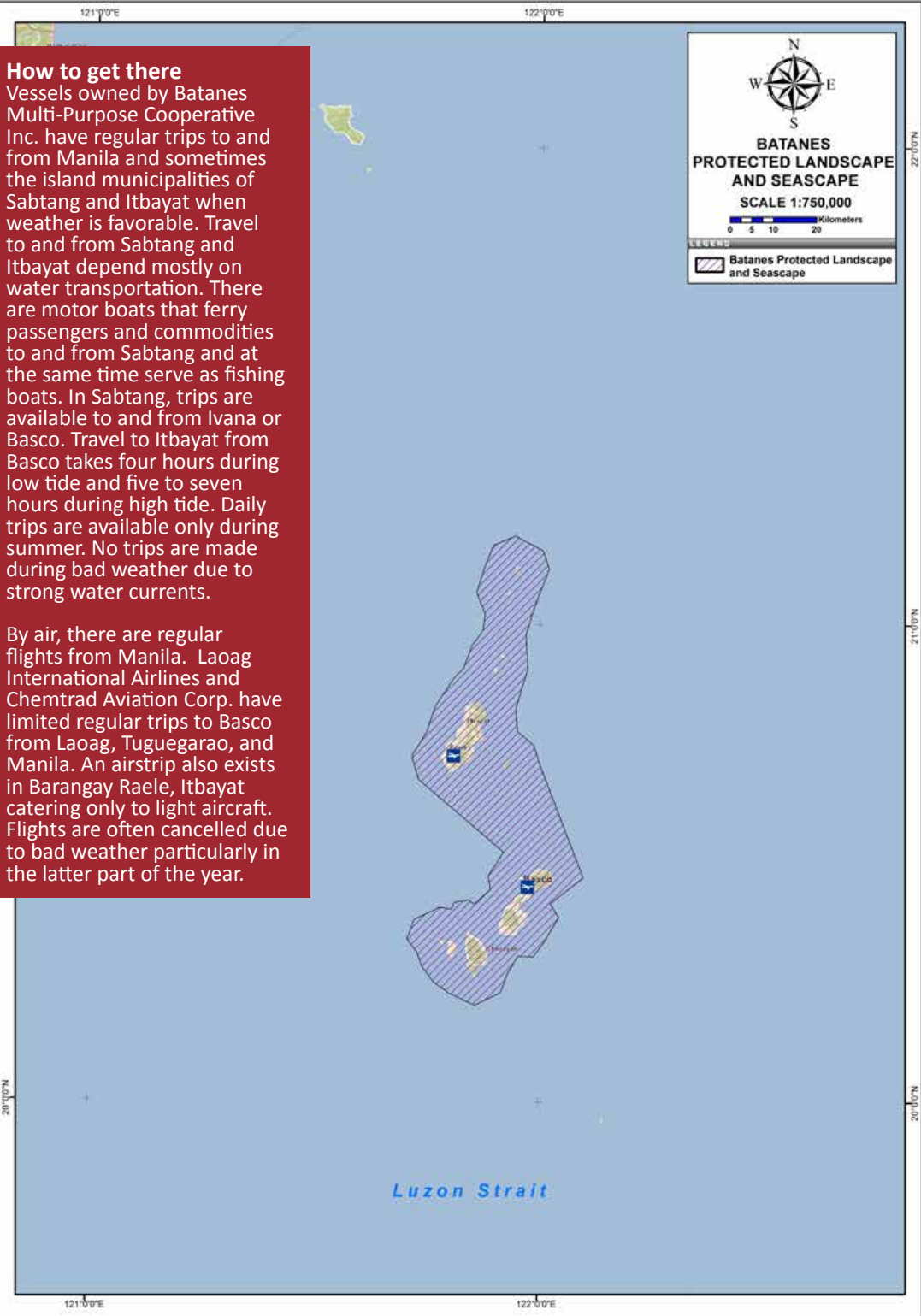
Visitors can also add to their memories of Batanes by bringing home locally-crafted goods such as the *vakul*, a traditional headgear of the Ivatan. These are lion mane-like wigs made of dried cogon grass. Sadly, weaving this traditional headgear is a dying craft as young Ivatans have little interest in the craft and there is difficulty in passing on weaving skills to the next generation.



How to get there

Vessels owned by Batanes Multi-Purpose Cooperative Inc. have regular trips to and from Manila and sometimes the island municipalities of Sabtang and Itbayat when weather is favorable. Travel to and from Sabtang and Itbayat depend mostly on water transportation. There are motor boats that ferry passengers and commodities to and from Sabtang and at the same time serve as fishing boats. In Sabtang, trips are available to and from Ivana or Basco. Travel to Itbayat from Basco takes four hours during low tide and five to seven hours during high tide. Daily trips are available only during summer. No trips are made during bad weather due to strong water currents.

By air, there are regular flights from Manila. Laoag International Airlines and Chemrad Aviation Corp. have limited regular trips to Basco from Laoag, Tuguegarao, and Manila. An airstrip also exists in Barangay Raele, Itbayat catering only to light aircraft. Flights are often cancelled due to bad weather particularly in the latter part of the year.





**Northern Sierra Madre
Natural Park**



The Northern Sierra Madre Natural Park (NSMNP) is one of the last remaining wilderness areas in the country. NSMNP spans both land and marine areas of 319,513 hectares and occupies the midsection of the Sierra Madre Mountain Range that stretches from the provinces of Aurora to Cagayan.

The terrain of the Park ranges from relatively low hills with dominantly moderate steep slopes near the coast to increasingly higher mountains with very steep slopes towards the central portion of the Sierra Madre Range. There are precipitous gullies and ravines with peaks and sharp ridges in the central portion of the range. The highest peak in NSMNP is Mt. Cresta (1,672 meters above sea level [masl]) followed by Mt. Divilacan (1,311 masl). These peaks form the physiographic divide between the eastern and western flanks of the Sierra Madre Range in the Park.

The last frontier

The Park is covered by agricultural lands planted with rice, coconut, corn, and other crops; grasslands; and forests. Beach forest, mangrove forest, lowland evergreen rainforest, lower montane rainforest, forest on limestone, and forest on ultramafic substrate comprise the Park's vegetation, with tree species such as red *lauan*, *tanguile*, *mayapis*, *palosapis*, *narra*, and *kamagong*.

Region: Region II

Province: Isabela

City/Municipality:
Municipalities of Maconacon, Diviacan, Ilagan, San Mariano and Palanan

Area: 319,513 (land: 247,861 hectares; water: 71,652 hectares)

Year/Date of Establishment:
1997

Legal Instrument: Proc. No. 978 (10 March 1997)

The NSMNP is noted for its high species index of flora and fauna; presence of numerous endemic plants and animals; vast expanse of rainforests; and variety of habitat types. These, and the fact that the Park represents a huge percentage of the remaining primary rainforest cover of the Philippines, are the main considerations for preserving the Park.

Some of the rare and endangered species of fauna recorded in the Park are the Philippine eagle, golden crowned flying fox, Philippine eagle-owl, Isabela oriole, green sea turtle, loggerhead turtle, hawksbill turtle, Philippine crocodile, and dugong.

The NSMNP is categorized as Extremely High Critical for biodiversity conservation and is one of the Key Biodiversity Areas of the Philippines. The variety of species as well as the high number of Philippine endemics highlight the importance of the Northern Sierra Madre Natural Park to global biodiversity.

Central to the survival of the Agtas

Communities of Agtas or Dumagats depend on the natural resources of the Northern Sierra Madre range for their survival and well-being. They continue to practice their traditional way of life and mainly subsist through the gathering of forest products and hunting of wildlife. They often hunt wild boar, deer, and other wildlife in the Park, but report that these have declined significantly because of forest loss and hunting by other communities.

Appreciating wilderness at its best

Some of the best features of the Park include extensive white sandy beaches with clean blue waters. Large coral reefs in almost pristine condition and rich marine life, including whales and dolphins, make the area ideal for scuba diving and other watersports. Some of the beaches are also nesting sites of sea turtles. The largely untouched forests of the Park, on the other hand, may be the best destination for nature lovers with the skills and fitness levels appropriate to the rigors and challenges of the Sierra Madre.

Reaching the various attractions of Northern Sierra Madre Natural Park is affected by the accessibility of the sites as well as availability of transport and guides to the desired destinations. It is best to do extensive research, decide on which places to see, check if tours or outfitters are available, and get appropriate guides. Homestays are available and may be arranged with the local tourism office.

Palanan is an old town founded by the Spaniards in 1609. The local dialect, called Paranan, is a mix of



Species diversity in NSMNP

- 1,079 species of trees
- 55 species of mammals
- 294 species of birds
- 25 species of amphibians
- 65 species of reptiles
- 36 species of freshwater fish
- 128 species of butterflies
- 35 species of dragonflies





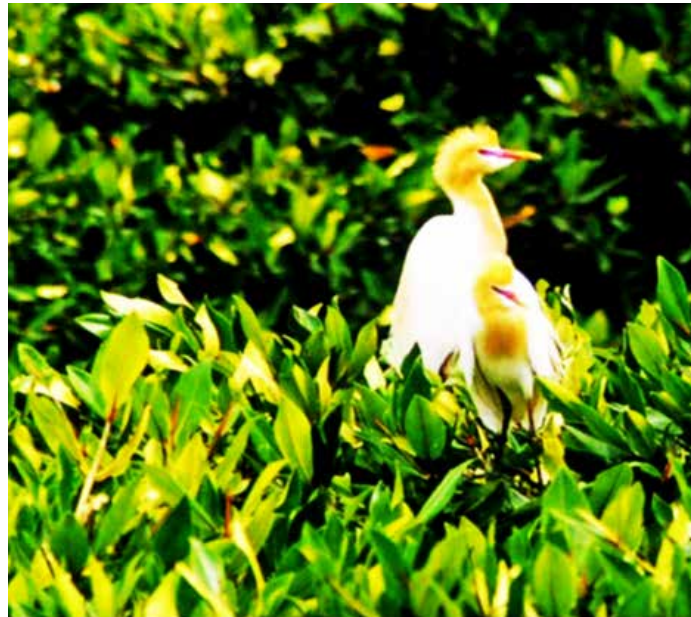
Ibanag, Spanish, Tagalog, and the indigenous Dumagat language. Some of the attractions in Palanan include the Aguinaldo Shrine, which includes a bust of Emilio Aguinaldo and a marker on the spot where the house of Aguinaldo once stood. Aguinaldo sought refuge in Palanan in 1899 and was captured there on 23 March 1901 by American General Funston, who walked from Casiguran with Macabebe Scouts pretending to be a high-ranking American prisoner to be delivered to Aguinaldo.

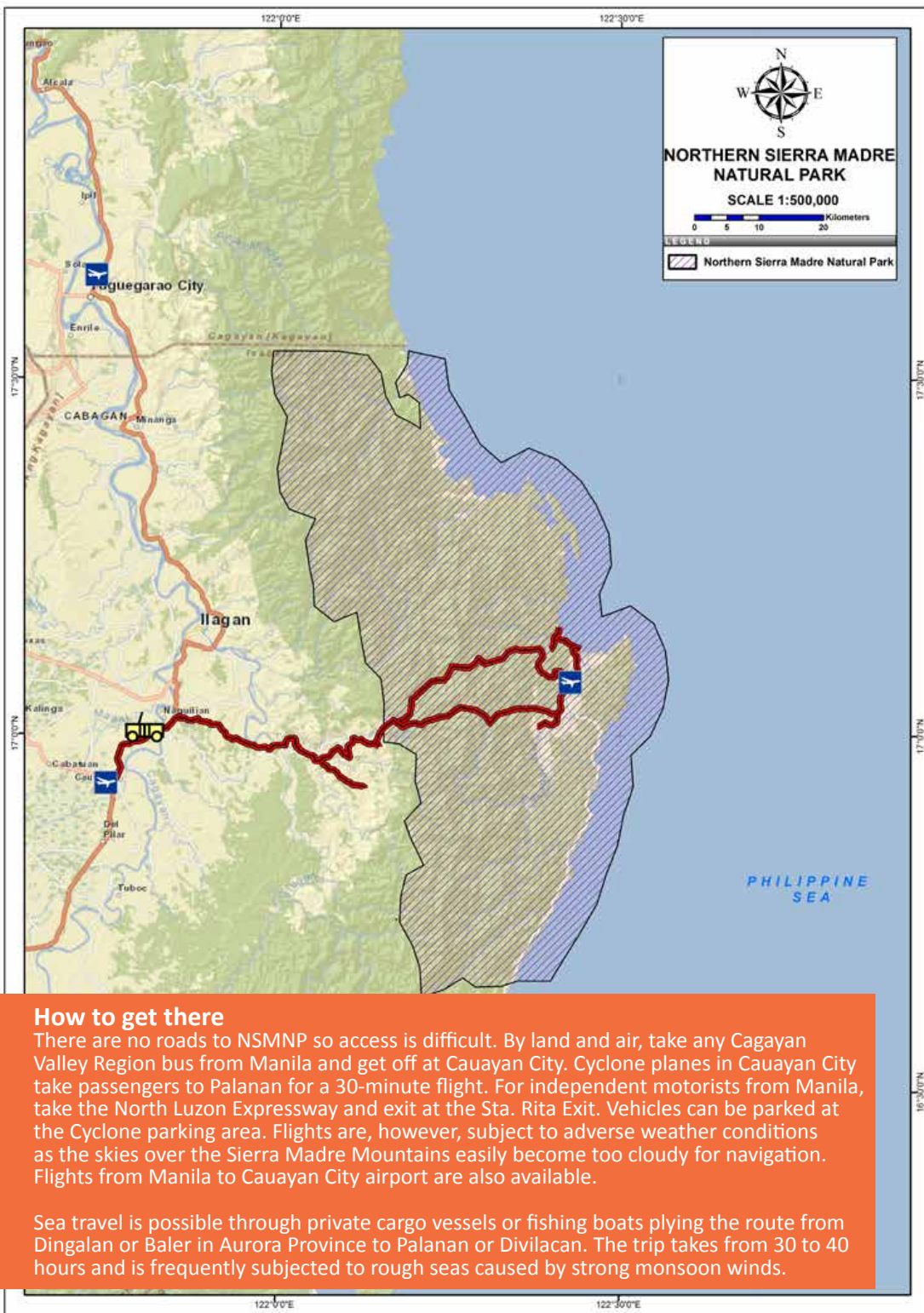
Other attractions in Palanan include the Pinacuanan River and Disadsad waterfalls. The waterfalls can be reached by trekking through the forest, passing fishing and farming villages. Another attraction in Palanan are the expansive beaches and crystal clear waters of Dicototan Beach in Brgy. San Isidro. A cruise through the Palanan River also allows visitors to pass through Dibungco, the first Agta organized community, as well as rich mangroves and Palanan Bay. Palanan Point's barrier reef and Sabang Beach are excellent destinations for diving and swimming.



Divilacan can be reached by a two-hour boat trip from Palanan. Estagno Island features powder-white beaches as far as the eyes can see. Better known as Honeymoon Island, it is virtually unspoiled and may be one of the best beaches in the country. Divilacan is also the site of the Dicitian Lake Crocodile Sanctuary, where 50 captive-bred Philippine crocodiles were released in 2009. The endemic Philippine crocodile is critically endangered and is the most severely threatened crocodile in the world, with about a few hundred individuals surviving in the wild.

From Divilacan, visitors can travel 30 minutes by land to Maconacon. The town boasts of a stunning coastline with waves from the Pacific Ocean. The town also features the extensive Blos river, where homes of the nomadic Dumagats may be found on the riverbanks.





How to get there

There are no roads to NSMNP so access is difficult. By land and air, take any Cagayan Valley Region bus from Manila and get off at Cauayan City. Cyclone planes in Cauayan City take passengers to Palanan for a 30-minute flight. For independent motorists from Manila, take the North Luzon Expressway and exit at the Sta. Rita Exit. Vehicles can be parked at the Cyclone parking area. Flights are, however, subject to adverse weather conditions as the skies over the Sierra Madre Mountains easily become too cloudy for navigation. Flights from Manila to Cauayan City airport are also available.

Sea travel is possible through private cargo vessels or fishing boats plying the route from Dingalan or Baler in Aurora Province to Palanan or Divilacan. The trip takes from 30 to 40 hours and is frequently subjected to rough seas caused by strong monsoon winds.



Bangan Hill National Park



Covering 13 hectares, Bangan Hill National Park is located at Brgys. Vista Alegre and Magsaysay, Bayombong, Nueva Vizcaya. Bayombong is bounded on the north by Solano, on the east by Magat River and Palali Mountains, on the south by Bambang, and on the west by the Bangle and Liri mountains. The area is characterized by picturesque rolling terrain, with an elevation ranging from 300 to 445 feet above sea level.

Bayombong was established at the southeastern part of the present La Torre, where the Bayombong River passes through. The first inhabitants of Bayombong were the Ifugaos from the neighboring mountain provinces. They were followed by the Gaddang from Daruyat, Angadanan, Isabela and Amanga, Cagayan, and the Mallaates also of Isabela.

There are various versions for the origin of the name Bayombong. Some say the name Bayombong comes from the Gaddang word “Bayongyong,” which means confluence of a mighty river. Another version states that “bayongyong” refers to a piece of bamboo, about two meters long, which is used to carry fresh water from wells built along river banks. Legend has it that the Gaddanes drove away both the Ifugaos, and then the Mallaates from the area. When the Mallaates retreated, the town was littered with abandoned

Region: Region II

Province: Nueva Vizcaya

City/Municipality: Brgys. Vista Alegre and Magsaysay, Bayombong

Area: 13 hectares

Year/Date of Establishment: 1995

Legal Instrument: RA 7954 (29 March 1995)

“bayongyong,” which was then among their most prized possessions. The place was thus named Bayombong as a fitting reminder to the Gaddanes of their first taste of victory against invaders of their domain.

In yet another version, Spanish missionaries wondered about the water bamboo containers carried by local residents in the area. When they asked about the water containers, the people chorused “Bayongyong” in response, hence the name of the town.

Bangan Hill National Park is a historic and cultural landmark of Nueva Vizcaya as it is the site of the first mass in the province in 1739 officiated by Father Pedro Freire. The event also marks the founding of the municipality of Bayombong. During Lenten season, this is where the people of Bayombong re-enact the Crucifixion of Jesus Christ on Mt. Calvary.

Bangan Hill National Park forms part of the land reservation of Nueva Vizcaya State University. Various forestry research projects are thus situated at the base of the Park.

Protect remaining biodiversity

More studies have to be conducted to determine the status of biodiversity in the Park. Based on preliminary studies of both vegetation and fauna, the natural resources of the Park have been largely depleted through human activities. These indicate the need for rehabilitation of the Park to ensure that remaining biodiversity resources are protected, and that species that populated the area may eventually return.

Opportunities for research and recreation

Some of the existing facilities in the Park include telecommunication facilities at the peak; a Station of the Cross; and a viewing deck and waiting shed for visitors. Research on agroforestry activities can be conducted with the various projects implemented by the Nueva Vizcaya State University at the foot of Bangan Hill National Park. These include a bamboo and Gmelina plantation, Grow a Tree project of forestry students, Dipterocarp Clonal Plantation, and an Agroforestry Demonstration Farm including the mulberry plantation that supports the university's sericulture project.

Bangan Hill is also an ideal year-round destination for picnics, camping, and hiking. The observation deck provides a commanding view of the expanse of the surrounding valley formed by the Caraballo and Cordillera Central mountains. There are also panoramic views of the winding Magat River and adjacent municipalities.



How to get there

Air-conditioned buses bound for Cagayan Valley pass by the province. For those using private transportation, take the North Luzon Expressway and exit at Sta. Rita. Nueva Vizcaya is accessible through the Cagayan Valley Road (Daang Maharlika) and is about 268 kilometers north of Metro Manila (approximately six hours of travel by land).

Bangan Hill National Park is accessible by any type of motor vehicle. Buses and public utility jeepneys ply various routes and there are numerous tricycles. Van and car rental services are also available with rates depending on the type of vehicles used and the distance traveled.





**Mts. Banahaw -
San Cristobal
Protected Landscape**



The mountains of Banahaw and San Cristobal may appear to represent the two opposing spectrums of the mythology of Philippine mountains. Mt. Banahaw is largely viewed as a mystic mountain, with various religious groups believing in the healing powers of the mountain and its rivers. During Holy Week, thousands of pilgrims go to various points of Mt. Banahaw to perform religious rituals. San Cristobal, on the other hand, is believed to be its evil twin, with many stories of mysterious sounds and movements in the night. Both mountains, however, are also known for their beautiful forests, waterfalls and rivers, and high levels of biodiversity.

The Mts. Banahaw-San Cristobal Protected Landscape (MBSCPL) is located in the municipalities of Lucban, Tayabas, Sariaya, Candelaria and Dolores, all in the Province of Quezon and in the municipalities of Rizal, Nagcarlan, Liliw, and Majayjay, and San Pablo City, in the province of Laguna.

Covering 10,900.59 hectares, the site was first declared a protected area in 2003, and then as a protected landscape in 2009. MBSCPL is bounded on the north by Laguna Lake, in the south by Tayabas Bay, in the southeast by the Bicol Peninsula, and in the east by the tail end of the Sierra Madre Mountain range.

Region: Region IVA

Province: Quezon and Laguna

City/Municipality:

Lucban, Tayabas, Sariaya, Candelaria, and Dolores in Quezon Province, and the municipalities of Rizal, Nagcarlan, Liliw, Majayjay and San Pablo City, Laguna Province

Area: 10,900.59 hectares

Year/Date of establishment: 2003, then 2009

Legal instrument:

Proc. No. 411 (25 June 2003);
R.A. 9847 (11 December 2009)

Wealth of biodiversity

Records indicate the presence of 569 species of plants, 56 of which are endemic, and 80 percent with medicinal value. Rare species of trees still found in the area include *pangnan*, *lansones-bundok*, *kalamansanai*, *tabu*, and *taluto*. Endemic species of plants used for handicraft, food, to produce palm wine, for caulking boats, for ornamental purposes, and for furniture making include *pugahan*, *ditaan*, *sumulid*, *tumalim*, and *palasan*. The tree fern *pakong-buwaya*, the largest tree fern in the country, can also be found in the Park.

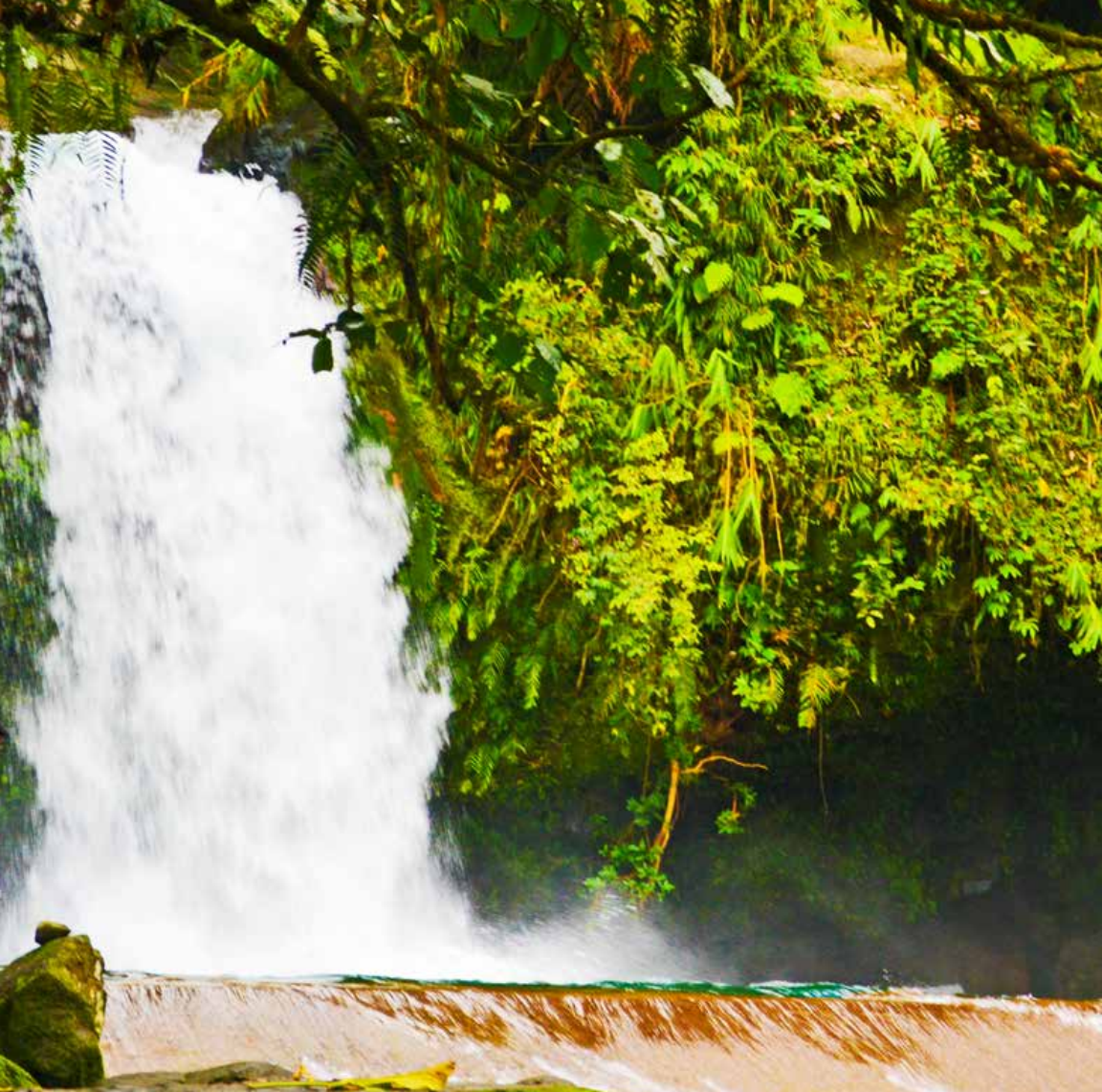
Significant wildlife species include the cloud rat *Musseromys gulantang*, which was discovered in 2004. There are also a number of endangered bird species in the area, such as the Brahminy kite, Philippine serpent eagle, Philippine falconet, scale-feathered cuckoo, *guaiabero*, Philippine hanging parakeet, crimson-backed woodpecker, white-browed shama, and small horned owl. Seven recorded species are endemic to Luzon, specifically the Luzon montane forest mouse, Luzon Cordillera forest mouse, large Luzon forest rat, Northern Luzon shrew rat, Luzon pygmy fruit bat, and long-nosed Luzon forest mouse.



Recorded biodiversity in MBSCPL

- 569 species of plants
- 246 species of birds
- 38 species of reptiles
- 43 species of amphibians
- 193 species of insects
- 62 species of mammals





Mountains and waterfalls captivate pilgrims and nature lovers

Considered sacred ground, a number of religious groups visit the Park, particularly during the summer months and the Holy Week. The various attractions of the Park and its accessibility make MBSCPL a popular weekend destination.

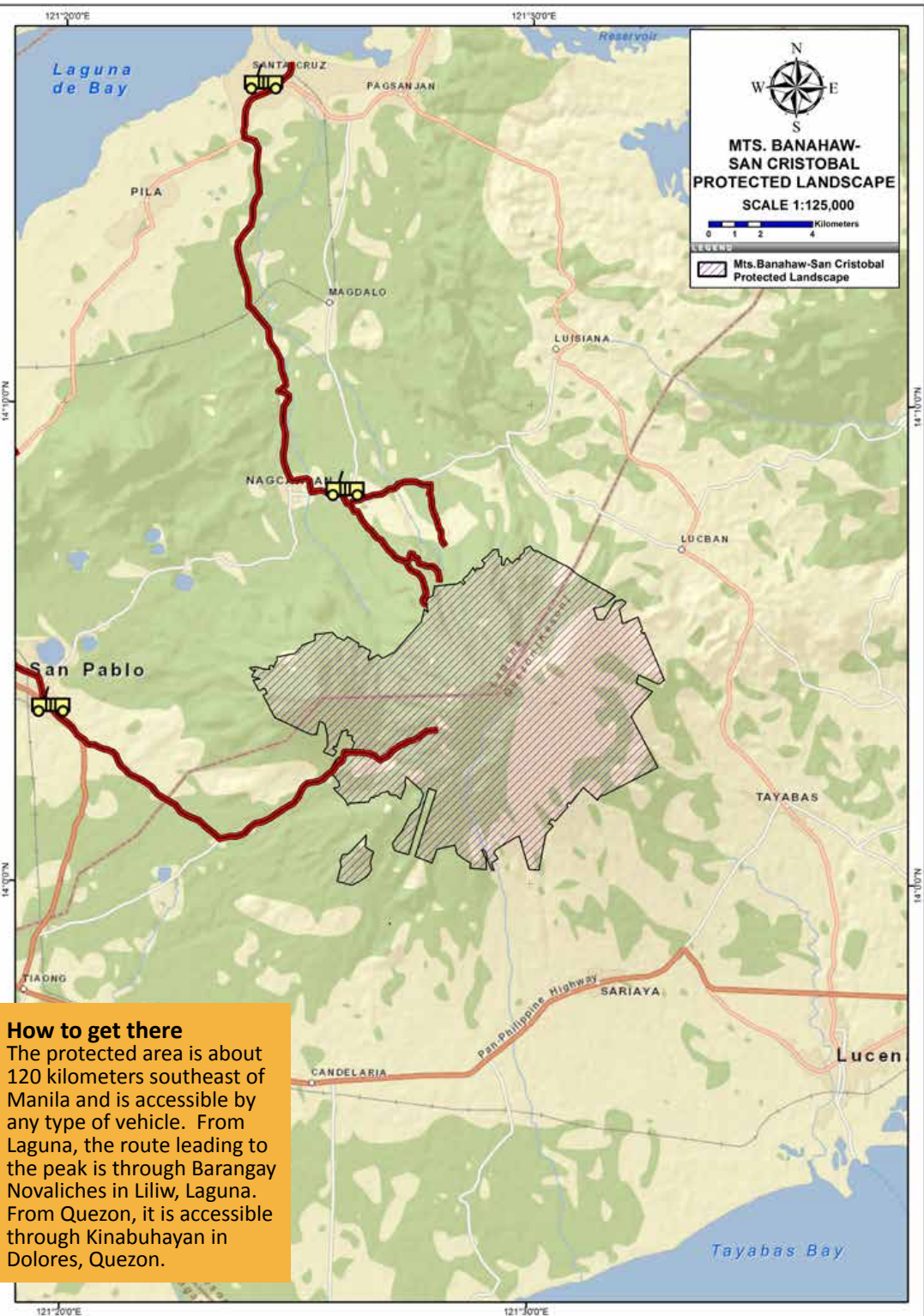
The Park has towering peaks, including Mt. Banahaw (2,177 meters above sea level [masl]), Mt. Banahaw de Dolores or Durungawan (2,155 masl), Mt. Banahaw de Majayjay or Susong Dalaga (2,160 masl), Mt. Banahaw de Tayabas (2,140 masl), Mt. Banahaw de Lucban (1,875 masl), and Mt. San Cristobal (about 1,470 masl). Mt. Banahaw's summit caldera, locally called "ilalim", is 600 meters deep and has a diameter of two kilometers. The caldera opens southwards in a four-kilometer long canyon of Mt. Banahaw. On the other hand, three basins or craters can be found on the summit of Mt. Cristobal.



Also called Vulcan de Agua, the Park is blessed with abundant water that sustains the creeks, rivers and waterfalls draining to Laguna de Bay and Tayabas. Seven rivers traverse the Park, namely, Balayong, Maimpis, Dalitiwan, Malinao, Nagcarlan, San Diego, and Kinabuhayan. The Kinabuhayan River in Dolores, Quezon is believed to have healing powers. People from all walks of life take a dip in the waters of Kinabuhayan with the belief that their illnesses will be cured.

Mt. Banahaw is also rich with waterfalls. Sta. Lucia, Suplina, and Kristallino Falls are all found in Dolores, Quezon and are also believed to have healing powers. Pilgrims and devotees take a shower in these falls particularly during the Lenten season. Several waterfalls can also be found in the crater of Mt. Banahaw, the most popular of which is Talong Ambon.







**Mount Makiling
Forest Reserve**



Photo by Angela Metin

The Mount Makiling Forest Reserve in Laguna was established in 1910 as a forest school for the advancement of silvicultural studies and is currently managed by the University of the Philippines in Los Baños. The forest reserve has been established as an ASEAN Heritage Park, one of seven such parks in the country.

A common weekend destination because of its proximity to Manila and the popularity of its hot springs and mountain peaks, the reserve is also recognized for its extremely high biodiversity and is one of the Philippines' centers of plant diversity.

Biodiversity perseveres

Biodiversity continues to persevere on Mount Makiling, despite the proliferation of resorts, restaurants and other infrastructure at the base of the mountain. Research continues to highlight the rich natural resources of the protected area, and its importance in the protection of the nation's biodiversity.

Primary habitats of the reserve include mixed dipterocarps, flowering plants, and mossy forest. The richness of the vegetation in the reserve is due to the favorable soil and climate of the mountain. The forest reserve is divided into four sub-watersheds, namely, the

Region: Region IVA

Province: Laguna and Batangas

City/Municipality:
Municipalities of Los Baños,
Bay, and Calamba in Laguna,
and Sto. Tomas in Batangas

Area: 4,244 hectares

Year/Date of Establishment:
1990

Legal Instrument: Pro. No. 106
(1910); Proc. No 552 (1933);
RA 3523 (1963); RA 6967 (1990)

Molawin-Dampalit sub-watershed, Cambantoc sub-watershed, Greater Sipit sub-watershed, and Tigbi sub-watershed. Dominant species vary per sub-watershed because of the differing environmental conditions.

Some of the endemic and threatened tree species found in the reserve includes *balobo*, *magabuyo*, and *palacpalac*. Elemi, a tree which yields an oleoresin that is used for varnishes and lacquers, is a native tree that is also threatened. The reserve also harbors *white lauan*, which is critically endangered and is native to Brunei Darussalam, Malaysia, and the Philippines.

The species that dominate the lower strata of the reserve are *kaong*, *magabuyo*, *bamban*, *apanang*, and *kamariang gubat*. Two endangered plant species can also be found in this area, specifically *kapa kapa* and jade vine.

Rafflesia manillana, which was feared to have gone extinct in Mount Makiling, was found in all the four sub-watersheds together with its host vine plant *ayo*.

The fauna found on the reserve is as diverse as its flora. Significant species include the Philippine *calotes*, which is endemic to the Philippines and found in all the sub-watersheds.

Another Philippine endemic naturally thriving in Mt. Makiling is *Phuilaetus sardus*, a species of frog in the *Rhacophoridae* family naturally inhabiting subtropical or tropical moist lowland forests. The Philippine warty pig and the Philippine deer are endemics that have also been sighted in the reserve. Many bats can also be found on the mountain, particularly *Megaderma spasma*, which is one of only two bat species in Asia and the only one in the Philippines that catches and eats tiny frogs and lizards.



Biological richness of Mount Makiling Forest Reserve

- 2,038 species of flora belonging to 225 families and 949 genera
- 45 species of mammals
- 181 species of birds
- 65 species of reptiles
- 22 species of amphibians
- 7,000 species of insects





Summits and hotsprings

Mount Makiling is an inactive volcano. Of the main craters, only a small portion remains, consisting of three fragments of nearly equal height and designated as Peaks 1, 2, and 3. These three peaks are remnants of the north wall of the crater since the south wall no longer exists. Peak 3 is the highest at 1,109 meters, followed by Peak 2 (1,090 m), and Peak 3 (1,085 m).

The volcanic history of Mount Makiling is also manifested by numerous hot springs around its base up to 350 meters. Most of these hot springs can be found in resorts clustered mainly along the highway from Los Baños to Pansol and are surrounded by swamps and their own peculiar biota. The most unusual is the “mud



spring” at 350 meters. The hot springs, by draining heat energy away from the presumed magnetic interior of the mountain, are probably responsible for the dormancy of the volcano.

These features and the Park’s proximity to Manila make Mount Makiling Forest Reserve a regular destination for families, who favor the hot springs and resorts, and nature enthusiasts, who most enjoy the physical features of the Park. The most frequented areas in the reserve include the Makiling Botanic Gardens, Flatrocks, mud springs, and Makiling Rainforest Park, while the more adventurous trek to Peak 2 of Mount Makiling. Recent records show that around 200,000 people visit the reserve each year.

Makiling in Philippine folklore

Mount Makiling is the home of the legend of Maria Makiling and is so named because the slopes of the mountain seem to resemble a reclining woman. Maria Makiling is a mystical goddess that is part of Philippine folklore. She is believed to dwell in the mountain and protects residents and travelers from harm.



How to get there

There are buses from Cubao or Buendia going to Sta. Cruz, Laguna. If coming from Alabang, ride a bus going to Calamba and then take a jeepney to Los Baños. Get off at Los Baños Crossing, and then ride the jeepney going to UPLB Forestry. Jeepneys may also be rented to take visitors directly to UPLB Forestry all the way to the get-off point/entry point of Flat Rocks and Mud Springs.

If coming from Manila by private vehicle, drive through South Luzon Expressway and take the Calamba exit. Go to UP Los Baños College of Forestry and Natural Resources and find the Makiling Rainforest Park.





**Mts. Iglit-Baco
National Park**



Mts. Iglit-Baco National Park is the refuge of the biggest remaining population of the tamaraw, a type of water buffalo that is endemic to Mindoro Island. The Park is characterized by a rugged terrain of slopes, river gorges, and plateaus, encompassing at least eight major river systems and 10 low mountains. Mt. Baco (2,488 meters) is the highest mountain and dominates the central portion of the Park. Southwest of Mt. Baco is Mt. Iglit (2,364 m) or *Fungso Mangibok*, the second highest, and where the most number of tamaraws roam.

As a haven for rich biodiversity, most of which can only be found on Mindoro, the Park was also established as an ASEAN Heritage Park, one of seven found in the country.

Showcase of Mindoro biodiversity

Mts. Iglit-Baco best showcases the irreplaceable biodiversity of Mindoro. The Park's major habitat types are grassland and evergreen forest. The most important fauna is the tamaraw, which is considered one of the most seriously endangered large mammals in the world, with 382 individuals recorded in the Park in 2014. The Park is also home to other unique species of flora and fauna, including Mindoro endemics such as the Mindoro imperial pigeon, Mindoro tarctic

Region: Region IVB

Province: Mindoro Occidental and Mindoro Oriental

City/Municipality: Municipalities of Sablayan, Calintaan, Rizal, and San Jose in Mindoro Occidental; municipalities of Gloria, Bansud, Bongabon, and Mansalay in Mindoro Oriental

Area: 75,445 hectares

Year/Date of Establishment: 1992

Legal Instrument: Proc. No. 557 (1969); RA 6148 (1970); RA 7586 (1992)

hornbill, Mindoro bleeding-heart pigeon, Mindoro scops owl, and Mindoro rusa deer.

The Philippine deer, wild pig, and large Mindoro forest mouse also inhabit the grasslands. A number of other endemic bird species such as the black-hooded coucal and scarlet-collared flowerpecker are found on the peak summits. Important plant species include the Mindoro pine and the endangered Jade vine.



Home of the Mangyans

Mts. Iglit-Baco is the traditional home of the Mangyans, indigenous group of Mindoro, which is further classified into at least eight ethno-linguistic groups: Iraya, Batangan, Hanuno'o, Alangan, Ratagnon, Tagaydan or Tadyawan, Buhid and Pula. Some groups are believed to have been coastal dwellers, but have since moved into the remote forest interior to avoid religious conversion by migrants. The Mangyans are traditionally nomadic within their territory and settle temporarily where food is found. Extended families set up loose clusters of bamboo huts with thatched roofs and raised floors. There are no formal leaders or social classes, and elders settle community disputes.

The Tau-buid or Batangan and the Buhid directly depend on Mts. Iglit and Baco for their source of food and livelihood. They grow corn and sweet potato close to their huts. Others supplement these with cassava, rice, bananas, papayas, avocados, squash, beans, taro, and other vegetables. They gather edible forest products, trap wild pigs and chickens, and raise domestic stock.

Biological richness of Mts. Iglit-Baco National Park

- 63 species of plants
- 104 species of birds
- 11 species of snakes
- 14 species of lizards
- 9 species of amphibians
- 10 species of fruit and insect bats
- 3 species of large mammals





Playground of the tamaraws

Tamaraw watching is the best thing to do in the Park. Knowing that there are only a few hundreds left in the wild, it is truly a privilege to see these endangered creatures roam freely in the grasslands of the Park.

The tamaraws are best viewed at Station 3, which is the site of Mt. Magawang. The climb to Station 3 may take an average of six to eight hours, depending on the fitness of the climber, conditions on the mountain, and load carried. Early morning on top of a small hill adjacent to Station 3, or on top of Mt. Magawang, will treat visitors to a panoramic view of the magnificent and serene Mt. Iglit range. Groups of tamaraw can be spotted early on by eagle-eyed rangers, and if one is lucky, 30 or more tamaraws can be easily seen in a two-hour period.

The rangers are also likely to spot deer roaming in the grasslands. Visitors can also observe the tamaraw in captivity at the Gene Pool Farm Facility of the Tamaraw Conservation Program in Sitio Canturoy, Brgy. Manoot, Rizal. There they can learn more from local experts about conservation activities of the Park and the tamaraw.



Birdwatching is becoming increasingly popular particularly because of the presence of bird species endemic to Mindoro. Other interesting species include the blue shortwing, island thrush tardus, blue-headed racket-tailed parrot, barred graybird, Philippine bulbul, and the Mindoro canegrass warbler.

Mountain climbing is also becoming more common, particularly because of the increased accessibility of the Park. The climb to Mt. Iglit starts with a one-hour trek from Brgy. Poypoy, Calintaan, in Occidental Mindoro to Station 1 at Sitio Magtangcob. Another three-hour hike brings one to Station 11 at the foot of Mt. Iglit. From there, one can start a four- to five-hour ascent to the summit. Climbers can descend to Loibfo Hill and then Magawang for tamaraw watching.



121°00'E

121°30'E



MTS. IGLIT-BACO NATIONAL PARK

SCALE 1:300,000

0 3,450 6,900 13,800 Meters

LEGEND

 Mts. Iglit-Baco National Park

How to get there

The Park can be reached either by plane via San Jose; inter-island vessel from Batangas to Abra de Ilog and then bus to San Jose; or by boat from Batangas to Calapan, and then by land to San Jose.

By air, there are regular flights from Manila to San Jose, Occidental Mindoro. By sea and land, visitors can take various ferries from the port of Batangas that sail daily to Abra de Ilog, Occidental Mindoro. Travel time by sea takes two to three hours.

From Abra de Ilog Port, one can take a three-hour ride by bus or van to Sablayan, and another three hours from Sablayan to San Jose.

Visitors can also travel by land from Calapan, Oriental Mindoro to San Jose, which will take five hours.

To get to the Park, one route is through the Tamaraw Gene Pool Farm in Sitio Canturoy, Brgy. Manoot, Rizal, Occidental Mindoro, where one crosses the Busuanga River via Mt. Balangawin, then across Lumintao River to Mt. Nagbobong; and finally to the tamaraw habitat in Mt. Magawang.

The easiest and nearest access point to MIBNP is through a 30-40 km road to Brgy. Poypoy, Calintaan, Occidental Mindoro. From San Jose, buses are available for the one-hour ride to Calintaan, where tricycles are available for the trip to Brgy. Poypoy.

13°00'N

13°00'N

12°30'N

12°30'N

121°00'E

121°30'E



Photo by Lene and Claus Topp

Tubbataha Reefs Natural Park



Photo by Yvette Lee

Tubbataha Reefs Natural Park (TRNP) and World Heritage Site is 97,030 hectares, the largest marine protected area (MPA) in the Philippines. It is located 181 kilometers southeast of Puerto Princesa City, Palawan, in the heart of the Sulu Sea. The Park is uninhabited and is composed of the South and North Atolls and the Jessie Beazley Reef. The Municipality of Cagayancillo, some 100 kilometers to the northeast, has political jurisdiction over Tubтатаha.

The North and the South Atolls are separated by an eight-kilometer channel. Both atolls contain islets; the South Islet has a lighthouse, while the North Islet serves as nesting place for marine turtles and seabirds. Jessie Beazley Reef lies 20 kms from the North Atoll. It is a 45-hectare reef with an emergent cay visible at low tide.

Tubbataha constitutes a near pristine coral reef with perpendicular walls reaching over 100 meters in depth, reef crests thriving with coral and fish life, and extensive lagoons carpeted with seagrass and coral beds. It is one of the most biologically diverse offshore coral reef systems in the Philippines and was thus declared a Key Biodiversity Area of the country.

Region: Region IVB

Province: Palawan

City/Municipality:
Municipality of Cagayancillo

Area: 97,030 hectares with a buffer zone of 10 nautical miles from the boundaries of the Park

Year/Date of Establishment:
1988; 2010

Legal Instrument:
Proc. No. 306 (11 August 1988); Proc. No. 1126 (23 August 2006); RA 10067 (6 April 2010)

The Park's outstanding universal values in terms of exceptional natural beauty and importance; significant biological and ecosystem processes; and importance to *in-situ* conservation of biological diversity led to its inscription in the UNESCO World Heritage list on 11 December 1993. Tubbataha was inscribed in the RAMSAR List of Wetlands of International Importance on 19 November 1999. It was declared an ASEAN Heritage Park (AHP) in November 2014, one of seven in the Philippines. It is the only purely marine World Heritage site and AHP in Southeast Asia.

Safeguarding irreplaceable heritage

The management of an offshore MPA is a complex undertaking beyond the ability of one agency to manage successfully. Safeguarding this irreplaceable heritage is the multi-stakeholder Tubbataha Protected Area Management Board (TPAMB). It is composed of national and local government agencies, the academe, the private sector, and non-government and people's organizations. At the helm of the Park's management

Biodiversity richness of Tubbataha Reefs Natural Park

- 615 species of fish
- 369 species of corals
- 13 species of sharks
- 13 species of dolphins and whales
- 7 species of seagrass
- 79 species of algae
- At least 2 species of marine turtles
- 11 species of marine mammals
- Over 100 species of birds





Photo by Eric Madeja

are the Department of Environment and Natural Resources and the Palawan Council for Sustainable Development. Together, this constellation of actors has negotiated the challenges of conserving Tubbataha.

Executing the decisions of the TPAMB is the Tubbataha Management Office (TMO), charged with the day-to-day affairs of the Park. Meanwhile, in the middle of the Sulu Sea, a composite team of marine park rangers safeguard the reefs from illegal use. The Philippine Navy, Philippine Coast Guard, Municipality of Cagayancillo and TMO assign law enforcers to Tubbataha on two-month rotations year round. Not only do they enforce the law, they conduct research, visitor management, cleanups, and provide information to visitors.

Research and tourism are the only activities allowed in Tubbataha. Research provides sound scientific basis for decision-making, while tourists contribute to management through the payment of conservation fees, which fund management activities.

Diversity and splendor

Tubbataha is situated at the apex of the Coral Triangle, an area known to be the global center of marine biological diversity. The Park is home to a diverse assemblage of marine life. It contains 81 of the 111 coral genera known in the world. Ninety percent of all coral species in the Philippines could be found in its 10,000 hectares of coral reef. Tubbataha has the highest fish biomass estimates (total weight of fish) in the Philippines - an average of 200 metric tons per square kilometer. It is a developmental habitat and nesting ground of the green sea and hawksbill turtles. Thirteen species of sharks and rays and 13 species of whales and dolphins have been identified in its waters. The Park is one of the major rookeries of seabirds in the Philippines. Boobies, noddies, and terns roost in the islets, including an endemic sub-species of black noddy.

Because of its rich biodiversity, which is at the core of its exceptional natural beauty, Tubbataha is celebrated as one of the best dive sites in the world. However, seasonal access and distance limit tourism to the summer months of March to June each year when the sea is relatively calm.

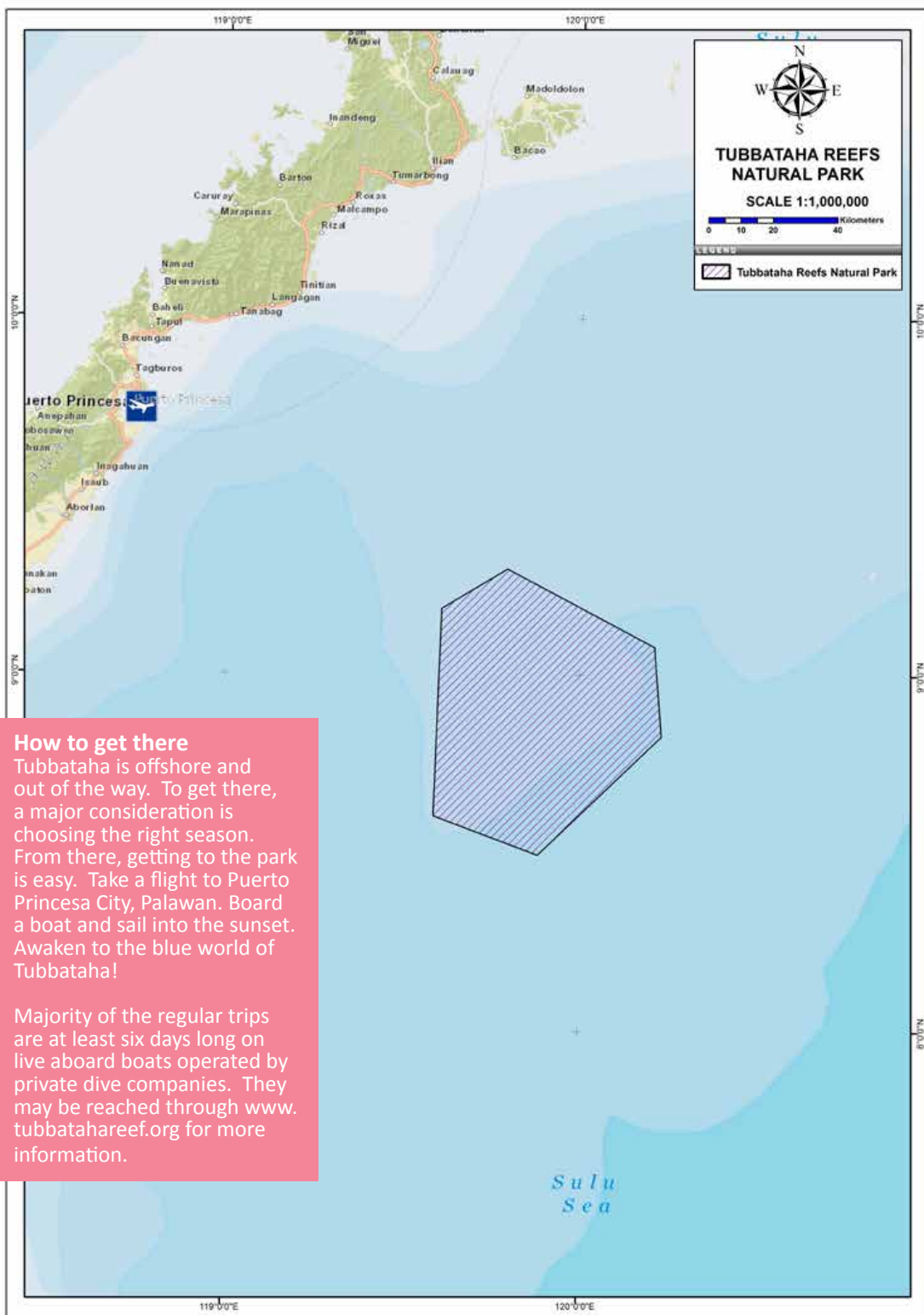
Beyond beauty

Scientific studies show that Tubbataha is a major station for the production of fish and coral larvae in the Sulu Sea. Oceanographers have discovered that prevailing winds and currents transport these particles of life throughout the Sulu Sea and beyond. This constant flux of larvae contributes to the food security of the Philippines and enriches fisheries outside its boundaries.

The Park is a refuge to almost 200 species of marine life that are internationally considered as threatened or near threatened. It serves as a living laboratory for the study of ecological and biological processes. Tubbataha is also an important pathway for migratory species. Tourism in Tubbataha contributes to the national and local economies. Finally, conserving this national treasure contributes to the attainment of global conservation goals.



Photo by Tommy Schultz



How to get there
 Tubbataha is offshore and out of the way. To get there, a major consideration is choosing the right season. From there, getting to the park is easy. Take a flight to Puerto Princesa City, Palawan. Board a boat and sail into the sunset. Awaken to the blue world of Tubbataha!

Majority of the regular trips are at least six days long on live aboard boats operated by private dive companies. They may be reached through www.tubbatahareef.org for more information.



Sagay Marine Reserve



The rich marine life of the Sagay Marine Reserve is one of the local people's sources of livelihood and pride. After more than three decades of effective conservation and management, it is also a shining example of how political will can rehabilitate ecosystems and restore biodiversity.

From destruction to award-winning marine conservation program

Sagay City in Negros Occidental is naturally blessed with a highly diverse and productive marine ecosystem that includes coral reefs, mangroves, and seagrass beds. It was famous for its lucrative fishing industry and became a major source of livelihood for the province. Illegal fishing activities, however, led to the massive destruction of coral reefs and other marine habitats in the area.

In the late 1970s, then municipal mayor and later Congressman Alfredo G. Marañon, Jr. initiated action for the conservation and management of the dying coral reefs with the help and technical expertise of Silliman University Marine Laboratory, then headed by Dr. Angel Alcala. These and other activities led to the establishment of marine sanctuaries, and eventually, the declaration of the Sagay Marine Reserve.

Region: Region VI

Province: Negros Occidental

City/Municipality:

Islands of Molocaboc, Diutay, Matabas and Suyac; reefs of Carbin, Macahulom and Panal; coastal waters of six barangays of Sagay

Area: 32,000 hectares

Year/Date of Establishment:
2001

Legal Instrument:

Municipal Ordinance No. 2 (1983); Proc. No. 592 (1995); RA 9106 (14 April 2001)

The reserve is now recognized nationally and internationally as one of the most successful marine conservation programs in the Philippines. In 1997, Sagay was given the prestigious Gawad Galing Pook Award for Outstanding Marine Resources Conservation and Management, one of the Ten Most Outstanding and Innovative Government programs in the Philippines. The marine reserve was awarded in 2006 as Best Eco-Tourism Destination in Western Visayas.

Marine biodiversity in full bloom

More than three decades after its establishment, Sagay Marine Reserve has become not only a thriving marine protected area, but a major ecotourism destination. The area boasts of 500 hectares of mangroves, 100 hectares of which have been reforested, as well as 3,000 hectares of seagrass. The reserve provides habitats to a wide variety of marine and terrestrial wildlife, including marine turtles, giant clams, and giant fruit bats. The integrity of the ecosystem protects the city from surges and typhoons, and supports the economy of the province through fishing and ecotourism.

The Sagay Marine Reserve is composed of Carbin Reef, Macahulom and Panal Reef, as well as Molocaboc Daku and Diot islands, and Suyac islet. Thousands of visitors come to enjoy the abundant marine resources and pristine waters of the reserve, which are ideal for swimming, snorkeling, and scuba diving.

Carbin Reef, a 200-hectare marine sanctuary featuring a unique, tongue-shaped sand bar and clear blue waters, is the most popular among visitors, especially because it is ideal for picnics, snorkeling, swimming, scuba diving, and other water related-activities. Among the reef's attractions are schools of fish, blooming coral formations, and sea turtles.

Sagay City derives its name from a semi-spherical shell locally known as *sigay* found abundantly in its islets and shores.

Recorded biodiversity at Sagay Protected Landscape/Seascape

- 33 species of true mangroves
- 10 mangrove associate species
- 10 species of seagrass
- 78 species of macro benthic algae
- 60 genera of hard, black and soft corals
- 5 species of giant clams
- More than 250 species of reef and pelagic fishes
- 4 species of marine turtles
- Giant fruit bats





Macahulom and Panal reefs are known for their colorful coral and abundant marine life, and the presence of migratory birds. Suyac islet, on the other hand, is home to centuries-old mangrove trees, large crabs, and white sand beaches.

The mid-sea watch towers of Carbin, Macahulom and Panal reefs have become landmarks of Sagay City and icons of marine life conservation.

Interestingly, a one-kilometer walking path connects Molocaboc Daku and Diot islands. It disappears during high tide and residents walking on it look like they are treading on water.



Love for all things nature

There are various other attractions in Sagay that showcase the community's environmental advocacy. The Himoga-an River Cruise, a community-based tourism project patterned after the Bohol River Cruise, is fast becoming a major attraction. The two-hour cruise at the longest river of Sagay travels from Brgy. Fabrica down to Brgy. Old Sagay.

As part of the local government's marine protection activities, Sagay City has the first marine museum in the country, which is also the first hands-on interactive children's museum outside Metro Manila. The *Museo Sang Bata sa Negros* not only entertains but also educates the visitors on environment protection. At the museum, children serve as tour guides who can impress even adults with their spiels.

For those who are into flowers, the Sagay Ladies' Circle has set-up the Sagay City Garden and Living Tree Museum in a one-hectare lot located near the government center. The Park has a gazebo, grotto, sheds, and different ornamental plants and trees, which are ideal for family picnics or for simply communing with nature.



123°00'E

123°15'0"E

123°30'0"E

How to get there

Sagay City is accessible by plane from Manila and Cebu via Bacolod-Silay Airport and is serviced by various airlines daily.

By sea, Negros Navigation and WG&A Superferry have regular shipping schedules from Manila to Bacolod City. Several fast crafts have regular schedules from Iloilo to Bacolod and vice versa.

From Cebu, Sagay can be accessed by sea from Toledo City via fast crafts to San Carlos City in Negros Occidental. There are also Roll-On Roll-Off ports in Bacolod City, Sagay City, Escalante City, and San Carlos City.

By land, Sagay City is approximately a two-hour drive by car from Bacolod City. Buses, vans for hire, and mini-buses regularly plying the northern Negros Occidental highway pass by Sagay City.



SAGAY MARINE RESERVE

SCALE 1:300,000

0 3.25 6.5 13 Kilometers

LEGEND

 Sagay Marine Reserve

11°15'0"N

11°15'0"N

10°45'0"N

10°15'0"N

10°30'0"N

123°00'E

123°15'0"E

123°30'0"E

Guimaras Strait

Cadiz

VICTOR

BIAN

LOPEZ

JAEJA

ESCALANTE

SALAMANCA

TOBOSO

SILAY

ALISAY

Bacolod

MAAG

MURCIA

ABUJANAN

MA-AO

CONCEPCION

GRANADA

La Carlota

TEVEDRA

TIGBOH

ALATRABA

SAN CARLOS

SAN CARLOS

Taogon Strait



Mt. Kanlaon Natural Park



Over the years, thousands of visitors have trooped to Mt. Kanlaon Natural Park, drawn by the rich tapestry of plant and wildlife that have evolved over centuries; the legends and spirits of the mountain and its forests, waterfalls, rivers and streams; and the sheer majesty of explosive Mt. Kanlaon.

The Park is a critical watershed that supports major river systems such as the Bago River, Nahalin River, and Binalbagan River, which in turn provide for the needs of the municipalities and cities that encompass the protected area. Still, the major target for most visitors is the summit crater of Mt. Kanlaon, where climbers are treated to magnificent and panoramic views of the Park and the surrounding forests.

Rising 2,435 meters above sea level, the active cone and summit crater of Mt. Kanlaon are the Park's most prominent features. Mt. Kanlaon is the highest point in Central Philippines and is part of a chain of volcanic mountains along the central spine of the island of Negros and the Negros Trench. These mountains include Mt. Silay (1,533.67 meters), Mt. Mandalagan (1,879.30 m), and Mt. Talinis (Cuernos de Negros) in southern Negros Oriental Province.

Regions: Region VI and Region VII

Provinces: Negros Occidental and Negros Oriental

City/Municipality:
Municipalities of Murcia and La Castellana, and cities of Bago, La Carlota, and San Carlos in Negros Occidental; and Canlaon City, Negros Oriental

Area: 24,557.60 hectares

Year/Date of Establishment:
8 August 2011

Legal Instrument:
Proc. No. 1005 (8 May 1997);
RA 9154 Series of 2011

Volcanic nature gives rise to unparalleled biodiversity

The volcanic nature of Mt. Kanlaon is evidenced by the presence of several major vents, including the present active cone. The size of the active crater measures roughly more than 300 meters in diameter, and descends cylindrically to a depth of about 800 meters.

The foot of the active cone to the summit-crater is barren of vegetation except for the growth of sparsely strewn species of two types of grass namely, the *Isache vulcanica* and the *Miscanthus depauperatus*, which are both endemic to Mt. Kanlaon.

There are various habitats on Mt. Kanlaon, which are dominated by lowland, montane, and mossy forests. The high elevation forest is dominated by gymnosperms, *pandans*, small to medium trees and shrubs, herbaceous species, orchids, vines and other epiphytes, ferns, and mosses.

The high diversity of fauna in the Park includes the Visayan warty pig, Philippine spotted deer, civet cats, and fruit bats. There are also a number of rare and endangered bird species in the Park, including the blue-crowned racquet-tailed parrot, Visayan tarictic hornbill, flame-templed babbler, white-winged cuckoo-shrike, and white-throated jungle flycatcher. Sadly, the Negros bleeding heart pigeon and the Negros fruit dove are critically endangered and are feared to be extinct.

The wonders of hiking through Mt. Kanlaon

There are a number of ways for visitors to enjoy the natural attractions of Mt. Kanlaon Natural Park, but the most popular activity is trekking to the summit. Those who have come to marvel at the beauty of the Park take away an exhilarating experience that contributes to the conservation of the rich biodiversity of Mt. Kanlaon.

For mountain climbers, tackling the mountain range is a challenge because of its size and natural geophysical features, such as deep ravines and crevices plus the massive vertical rock walls that could get slippery from mountain water drainage. The Park holds more than 40 kilometers of foot trails, most of which lead up to the mountain's summit. Depending on physical condition, entry point, and time restraints, hikes lasting from a few hours to several days can be planned.

The Ara-al and Mapot trails provide a pleasant one-day access to the summit. While the Masulog trail offers the shortest route (eight kilometers), it is a steady uphill climb to the summit. The Wasay trail (longest route) penetrates the most pristine wilderness of

Mt. Kanlaon is central to the local mythology, named after no less than Kan Laon, the supreme deity. Some tribes also hold Kanlaon to be the center of the universe – its crater a portal into the unknown source of fire and energy.



Species richness in Mt. Kanlaon Natural Park

- 197 species of plants
- 171 species of birds
- 25 species of mammals
- 14 species of reptiles
- 14 species of amphibians



Mt. Kanlaon Park, affording the visitors two days of rain forest and mossy forest environments.

Some of the interesting features of the Park include the *Hardin Sang Balo* (which translates into the Garden of the Widow). A campsite with a nearby water source, the area marks the transformation of the forest from the tall dipterocarps to the montane variety. The growth of “eerie-looking, twisted and gnarled trees” among the taller trees of the mid-mountain type has become the basis for local superstitions related to the name of the area among the locals.

Hikers are likely to encounter small but scenic rain-fed lagoons with surrounding dwarf trees. These lagoons are actually old craters of Kanlaon.



Near the summit is the Margaha Valley, another geologic feature of the Park. This old collapsed crater vent of Mt. Kanlaon formed as an oval-shaped caldera measuring about a kilometer across at its widest point with an average depth of roughly 400 feet below the rim. The bottom of the valley is a relatively large, flattened area some 40 hectares in size, which becomes a meter deep lagoon during the rainy season. It becomes very dry during the summer months and serves as a campsite for visitors.

The summit crater of Mt. Kanlaon is an open area devoid of vegetation, except in some portions where alpine-type species of grass and some other small shrubs grow, and where volcanic rocks of varying sizes, solidified ash, lava, and other deposits of pyroclastic materials become the dominant feature. The Park also hosts a number of waterfalls, including the twin waterfalls of Sudlon and Quipot Falls.

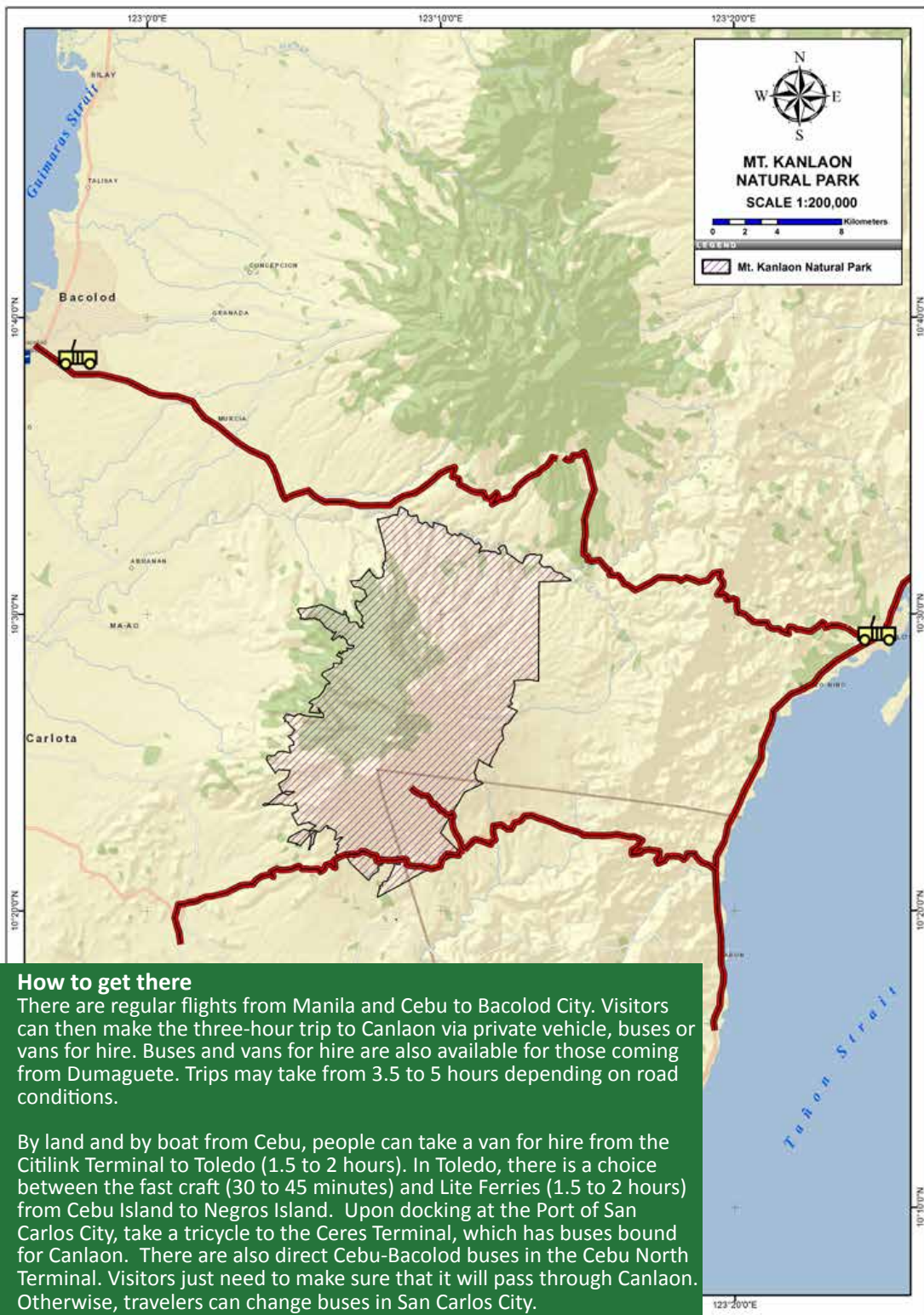




Photo by Joel Cariño

Central Cebu Protected Landscape



Photo by Joel Cariño

The Central Cebu Protected Landscape is located in the center of Cebu province, covering four cities, four municipalities, and 51 barangays. A major portion of the protected area is the Buhisan Watershed Reserve, which has an area of 630.89 hectares.

The topography of the protected area is generally rugged or steep, with elevations ranging from 500 to 990 meters above sea level. The highest elevation is at Mt. Manunggal in Brgy. Magsaysay, Balamban, Cebu.

Restored forests, various endemics

The Central Cebu Protected Landscape provides habitats for a number of endemic species. Many of these are already considered threatened by extinction. Some of the rare and endangered species found in the protected area include the Cebu cinnamon tree, Cebu derris, and a fig species, all confined to primary vegetation. A species of orchid from the Tabunan Forest, *Flickingeria* sp., is presumed to be new to science.

The natural forest of the Buhisan Watershed Reserve was lost about a century ago, when most of the island became denuded, leaving an undistinguished cover of brushland. However, reforestation activities were conducted in the 1900s using exotic species, forming a mixed

Region: Region VII

Province: Cebu

City/Municipality:
Portions of the municipalities of Balamban, Compostela, Consolacion, and Minglanilla, and the cities of Cebu, Danao, Talisay, and Toledo

Area: 28,192.518 hectares

Year/Date of Establishment:
7 June 2007

Legal Instrument: RA 9486

speciation of several dominant species within the area. Recent floral surveys resulted in the listing of species such as teak, *gmelina*, mahogany, *ipil-ipil*, *kakawate*, *patikan*, and *binunga*.

There may be more species in the Park given the size of the Central Cebu Protected Landscape. More research has to be undertaken to provide a better picture of the biodiversity status of the area.

Environmental education and recreation

Research studies are regularly undertaken by researchers and scientists from local academic scientific communities and organizations in the Park, particularly in the natural forest in Tabunan, Cebu City where high levels of biodiversity can still be observed.

Watershed educational tours are also often conducted for students. They are usually guided by non-government organizations or by faculty members of schools and universities of nearby cities and municipalities. These tours include lectures discussing the watershed and the important role of trees and forests in the environment.

A number of resorts, cottages, inns, zip lines, and other tourism-related establishments have been established in the area particularly along the Cebu Transcentral Highway in Barangay Gaas, Balamban, Cebu.

A big ecotourism Park is also planned to be established on Mt. Manungal, Magsaysay, Balamban, Cebu. This is also the crash site of Mt. Pinatubo, the airplane boarded by the Late President Ramon Magsaysay on March 17, 1957. This date marks the annual Mt. Manungal Trek, where more than 2,000 campers join different activities in commemoration of the death anniversary of the beloved president.



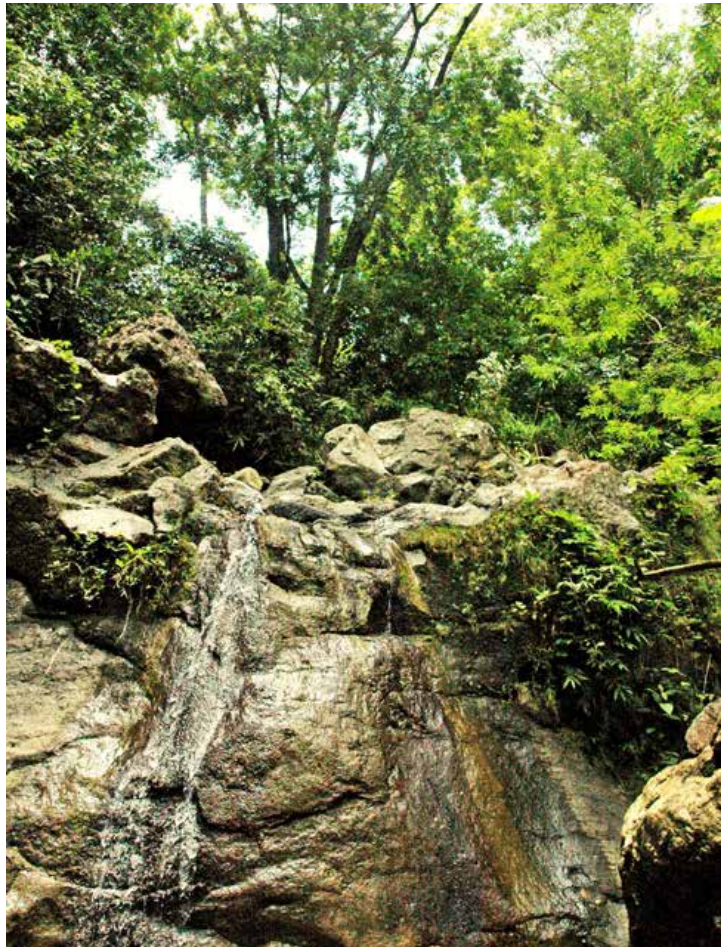
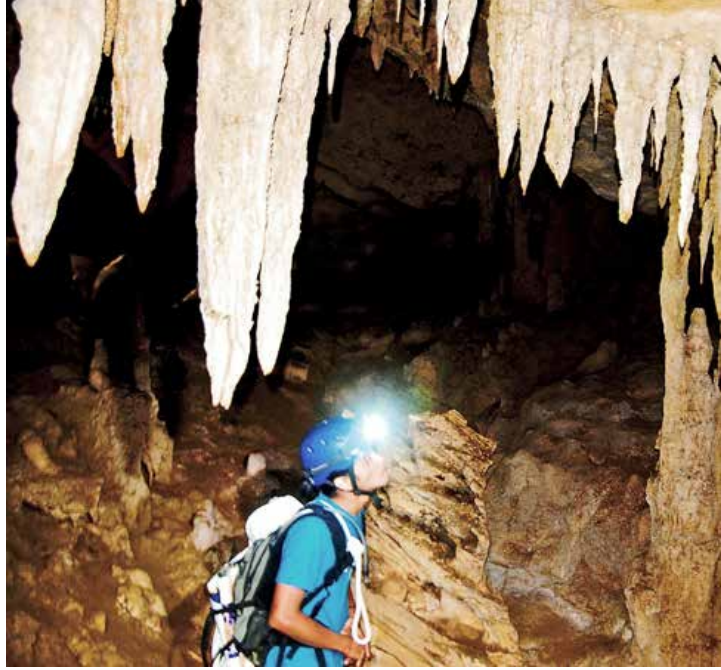
Cebu Hawk Owl.
Photo by Godfrey Jakosalem

Biodiversity recorded on Central Cebu Protected Landscape

- 127 plant species
- 3 plant species endemic to Cebu
- 144 plant species endemic to the Philippines
- 74 species of endemic fauna
- 15 species of birds
- 2 species of reptiles
- 5 species of insects
- 1 species of mammal









How to get there

The Central Cebu Protected Landscape is about 27 kilometers from the Cebu provincial capitol. It can be reached through the Cebu Transcentral Highway, which connects Cebu City to the Municipality of Balamban in the western part of the province. There are no public utility vehicles plying the area except vans for hire and “habal-habal”.



**Mimbilisan Protected
Landscape**



Covering 66.515 hectares in Misamis Oriental, the Mimbilisan Protected Landscape is a critical watershed that provides valuable ecological services to its host municipalities and nearby communities.

Mimbilisan is characterized by rolling hills and low lying mountains, and is shaped like a gorge with Mindocdocan Creek at its base. With a maximum elevation of 535 meters above sea level, the presence of extensive forests and water retentive aquifers on Mimbilisan allows it to function as a significant water reservoir.

Adjacent moderately steep slopes permit agricultural activity. Surrounding areas are thus planted with coconut, coffee, banana, abaca, corn, cassava, and other root crops.

Forest and agricultural land contribute to critical watershed

The forests of Mimbilisan consist of dipterocarps, *Moraceae* species of shrubs and trees, vines and lianas, palms, and numerous riparian or plant species that are specific to wetlands and banks of rivers and streams. The deep penetrating roots of trees, such as the dipterocarps, regulate water inflow and discharges, and control floods and drought in the area. The diversity of the forest regulates and enhances climate stability in this and nearby localities.

Region: Region X

Province: Misamis Oriental

City/Municipality:
Brgy. Mapua, municipality of Balingoan

Area: 66.515 hectares

Year/Date of Establishment:
2007

Legal Instrument:
Proc. No. 134 (5 July 1999); RA 9494 (22 August 2007)

Important flora and fauna found in Mimbilisan Protected Landscape include red *lauan*, tarictic hornbill, grass owl, rufous hornbill, large-billed crow, jungle fowl, Philippine long tailed macaque, Philippine cobra, monitor lizards, and river crabs.

Coconut trees dominate the agricultural areas. Grasses and low-lying shrubbery cover other patches of uncultivated land. Fast growing species of trees are sparsely planted in the area, usually as tree fences of households and boundaries of farmlots. These species include *gmelina*, *bagras*, *falcata*, and mahogany.

High ecotourism potential

Realizing the ecotourism potential of the Mimbilisan Protected Landscape, funds from the national government have been requested for the construction of various ecotourism structures. A Visitor Center has been established while plans for other infrastructure, such as a Protected Area Office, resting area for staff and visitors, and others, are being developed.

Various activities have been undertaken to further strengthen the protected area's functions as a critical watershed and site for ecotourism and other recreational activities. These projects include an Upland Development Program that developed 10 hectares in 2010. From 2011-2012, 40 hectares were planted with *narra*, red and white *lauan*, and *molave* under the National Greening Program.

Activities that may be introduced through a well thought ecotourism plan include hiking through the forest; nature and biodiversity appreciation through plant walks; environmental education tours that highlight the importance of the site as a critical watershed; and nature photography. Birdwatching can also be developed as the Mimbilisan Protected Landscape serves as a feeding and nesting station of migratory birds.



How to get there

The watershed is accessible via the barangay road of Mapua where a trail connects to the site. Mapua-bound motorcycles (*habal-habal*) are available at the municipality's central district. The total distance of barangay Mapua from the central district of Balingoan is seven kilometers and takes about 20 minutes travel to reach the area. The road is unpaved and difficult to access during rainy season.

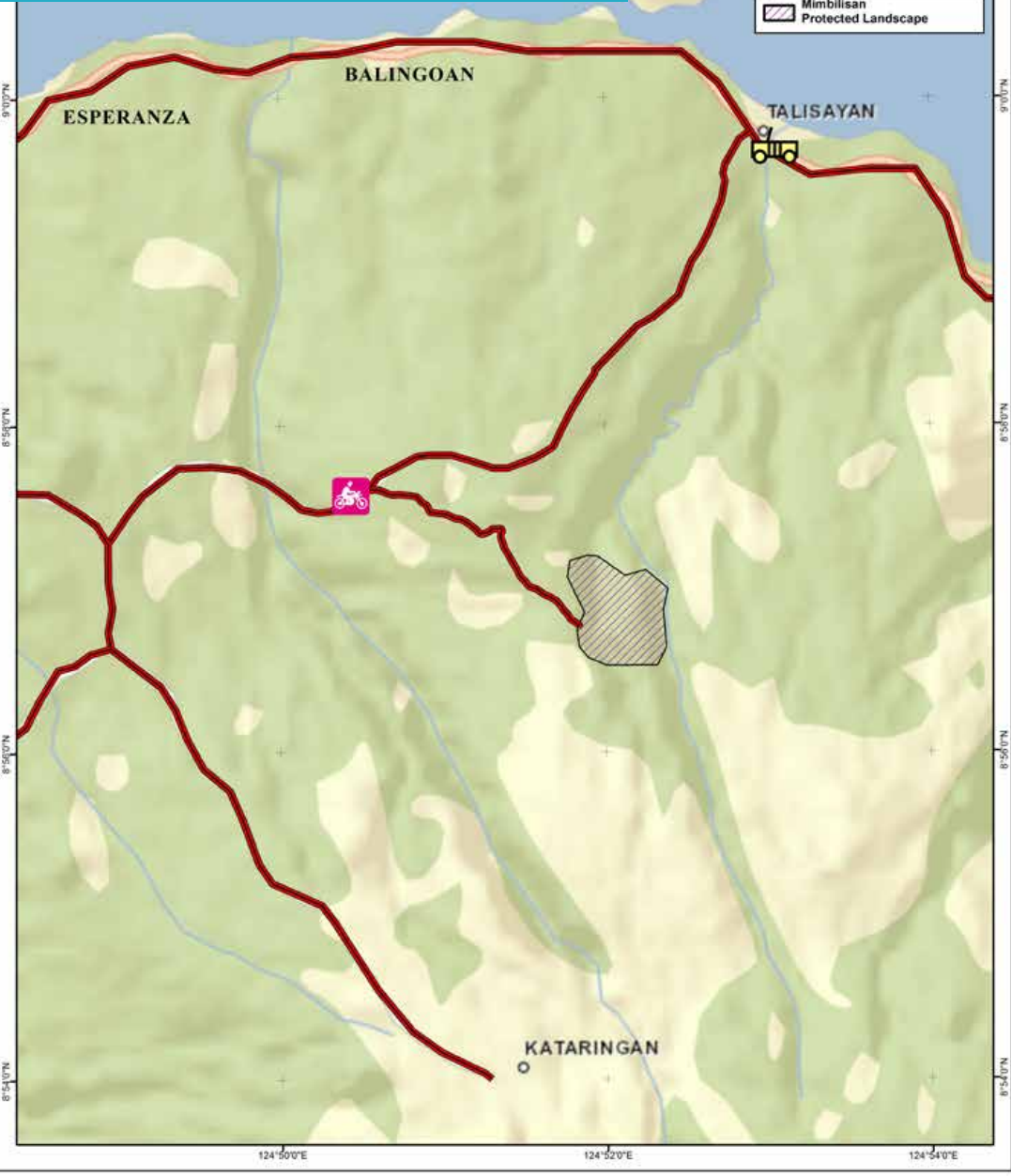


**MIMBILISAN
PROTECTED LANDSCAPE**
SCALE 1:40,000

0 0.4 0.8 1.6 Kilometers

LEGEND

- Mimbilisan
- Protected Landscape





Mt. Malindang Natural Park



Lying at the core of Misamis Occidental is the magnificent range of Mt. Malindang. The Park covers 53,262 hectares of forest lands stretching over the cities of Oroquieta, Ozamis and Tangub; and the municipalities of Sapang Dalaga, Concepcion, Don Victoriano, Calamba, Aloran, Panaon, Jimenez, Tudela Sinacaban, Clarin and Bonifacio, as well as the provinces of Zamboanga del Norte and Zamboanga del Sur. Seven major peaks punctuate the mountain range, with Mt. Malindang (2,404 meters) as the highest and Mt. Ampiro (1,532 meters) as the lowest peak.

First declared a National Park and Watershed Reserve on 19 June 1971, Mt. Malindang Natural Park was one of the first components of the National Integrated Protected Areas System in 2004. In 2011, Mt. Malindang was declared an ASEAN Heritage Park in recognition of the importance of its biodiversity resources to the country and to the ASEAN region.

The Park is economically significant to the province and its neighboring communities as it supports 15 major watersheds.

Nature's medicine cabinet

The Park has five distinct habitats, specifically grassland, dipterocarp forest, lower montane forest, upland wetland, and mossy and

Region: Region X

Province: Misamis Occidental, and portions of Zamboanga del Norte and Zamboanga del Sur

City/Municipality: Cities of Oroquieta, Ozamis and Tangub, and Municipalities of Sapang Dalaga, Concepcion, Don Victoriano, Calamba, Aloran, Panaon, Jimenez, Tudela Sinacaban, Clarin and Bonifacio

Area: 53,262 hectares

Year/Date of Establishment: 2004

Legal Instrument: RA 6266 (19 June 1971); RA 9304 (30 July 2004)

associated forest. The rich vegetation of the Park encompasses thousands of plant species, many of which are endemic and threatened with extinction, including rattans and 10 dipterocarp species such as *red lauan*, *white lauan*, and *tanguile*.

Various plants are known for their high medicinal values and are used extensively by the local indigenous peoples. These include *sili-sili* (*Drimys piperita*), which treats stomach and muscle spasms, and *kalingag* (*Cinnamomum mercadoi*). *Kalingag* is one of the oldest known herbal medicines, which have been mentioned in Chinese medicinal texts as far back as 4,000 years ago and used medicinally in Egypt around 500 BC. Infusions of the bark and leaves of *kalingag* are used to treat appetite loss, vomiting, various aches and pains, rheumatism, dysentery, and diarrhea, among many other ailments.

High value endemic ornamental plants can also be found in the Park, such as the Philippine orchid, fishtail palm *Caryota cumingii*, and many others. Because of the high endemicity of the Park's biodiversity, Mt. Malindang was included in the list of extremely high conservation priority areas for plants in 2002.

Eagles nest here, too

The Philippine eagle has been recorded several times on Mt. Malindang, making the Park an important part of the network of sites required for the conservation of this critically endangered species.

Other endangered species found in the Park are the Philippine deer, Philippine tarsier, rufous hornbill, flying lemur, reticulated python, monitor lizard, Mindanao warty pig, and others. Twenty-four birds and three reptile species have cultural and socio-economic significance to local communities.



Amazing wildlife of Mt. Malindang

- 1,284 species of plants
- 36 species of mammals
- 162 species of birds
- 33 species of reptiles
- 26 species of amphibians





Volcanic history gives rise to unique ecosystems

Several features indicate that the mountain range was formed through a series of volcanic activities throughout its long history. These include the six-hectare crater lake known as Lake Duminagat and two large sunken areas (measuring more than 20 hectares) surrounded by high rock walls, cinder cones, dome volcanic plugs, amphitheater structures, extensive distribution of volcanic rocks, carbonized wood found in pyroclastic deposits, and two sulfuric hot springs. Canyons, gores and ravines dissect the entire mountain range.

The Subanen of Mindanao

Mt. Malindang is considered the ancestral domain of the Subanen, the indigenous people of Misamis Occidental. They are also known as the Subanon – the freedom loving people of Northern Mindanao. Subanon is derived from the vernacular word “suba” which means river, and are so named because they dwell near or along riverbanks. The Subanen comprise around 75 percent of the occupants of the Park.



Peaks, waterfalls and Lake Duminagat

The most popular activities in the Park are climbing to the many challenging peaks, and hiking through nature trails to see wildlife and rivers, waterfalls, caves, and hot springs. As a refuge of the Philippine eagle and various other endangered bird species, the Park is a magnet for serious birdwatchers. Visitors can also see some sites that are culturally significant to the local community, specifically the mystical Lake Duminagat, a crater lake.

Lake Duminagat is a small lake with a surface area of 8.04 hectares, with a maximum depth of 20.95 meters at about the middle of the lake. Located 1,560 meters above sea level, Lake Duminagat was most likely the result of a violent ejection of magma forming the depression that accumulated water, which gave rise to the lake.

The lake is one of the historical landmarks of the Subanen and used as a ritual site during important gatherings on Mt. Malindang. The Subanen make an annual pilgrimage to the lake during Holy Week because they believe that the water coming from the lake can heal various illnesses. The annual expedition allows the Subanen to witness and experience the grandeur and mystical power of the lake.

123°30'0"E

123°45'0"E

How to get there

From Manila, there are regular flights to Ozamiz City, Misamis Occidental. Buses or private vehicles can take visitors to the Protected Area Office in Oroquieta City. Access to the Park is through the municipality of Don Victoriano, which can be reached through jeepneys on regular scheduled routes from Ozamiz or Oroquieta City.



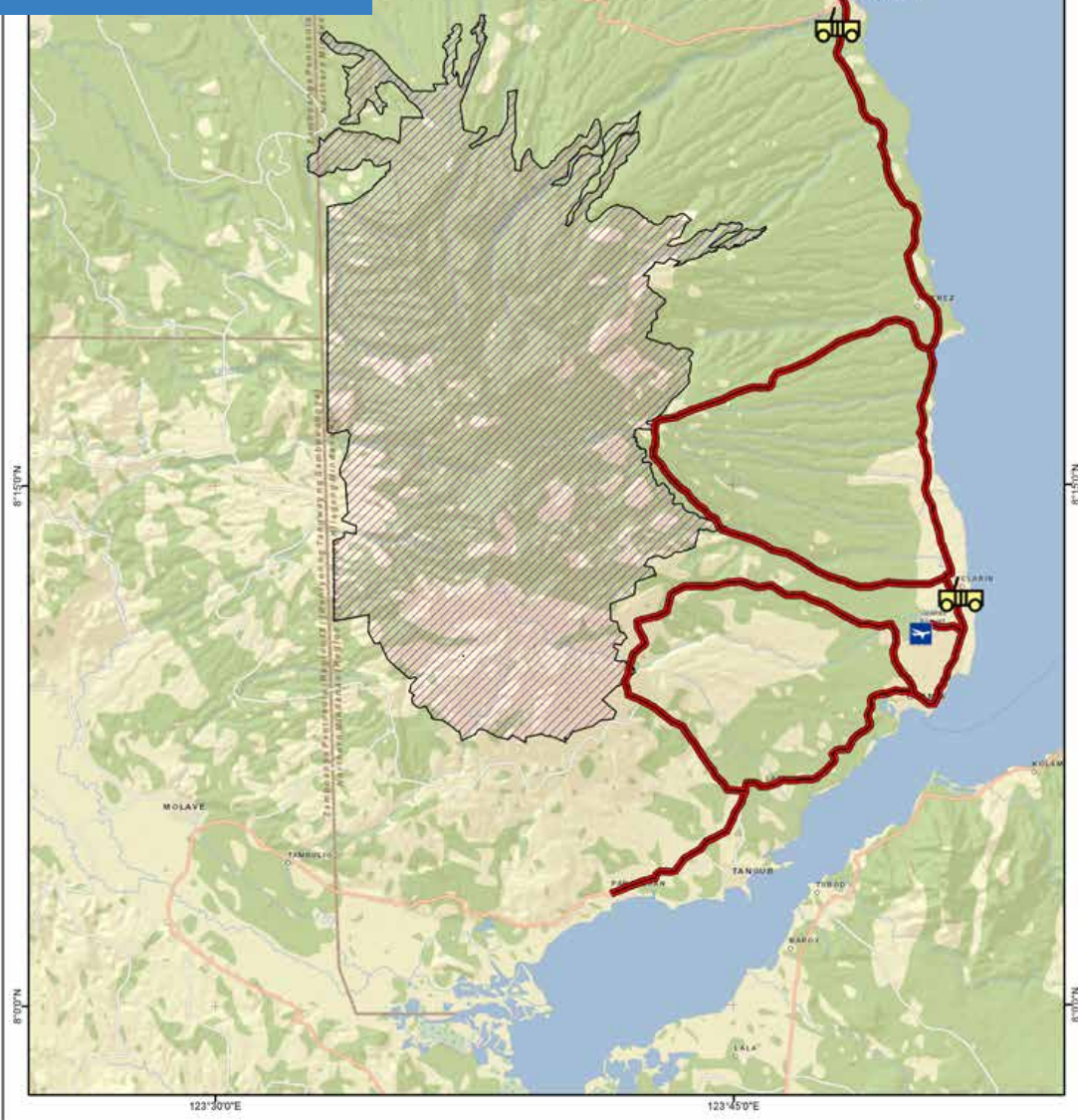
MT. MALINDANG NATURAL PARK

SCALE 1:200,000

0 2 4 8 Kilometers

LEGEND

 Mt. Malindang Natural Park



123°30'0"E

123°45'0"E



Photo by the Biodiversity Partnerships Project

Mt. Hamiguitan Range Wildlife Sanctuary



Covering 6,834 hectares, Mt. Hamiguitan Range Wildlife Sanctuary (MHRWS) is shared by seven barangays namely, Macambol and Cabuaya of Mati; La Union, Maputi and Talisay of San Isidro; and Osmeña Sr. and Tandang Sora of Governor Generoso, all in the province of Davao Oriental.

Established in 2004, the sanctuary is dominated by Mt. Hamiguitan, which stands at 1,637 meters. An ASEAN Heritage Park, Mt. Hamiguitan is distinguished by a bonsai field or 'pygmy' forest of 100-year-old trees on ultramafic soil. Noted for its rich biodiversity, the protected area has also been identified as one of the Key Biodiversity Areas in the country.

Mossy forests yield rich biodiversity

Major forest types in the sanctuary include cultivated forests with brushland and grassland at the lower portions of the Park; secondary growth forest; and mossy forest in the highlands. Trees within the mossy-pygmy forest have an average height of only 1.4 meters with a diameter of eight centimeters. One of the dominant species that can only be found in this forest type is *tinikaran* or red fig tree and *Wendlandia nervosa*. Other rare plant species found on Mt. Hamiguitan include the slipper orchid, nepenthes, staghorn fern,

Region: Region XI

Province: Davao Oriental

City/Municipality:
Municipalities of Mati, Gov. Generoso, and San Isidro

Area: 6,834 hectares

Year/date of establishment:
30 July 2004

Legal instrument:
RA 9303 or Mt. Hamiguitan Range Wildlife Sanctuary Act of 2004

rhododendrons, and Philippine hardwoods such as *yakal* and *tangile*.

Recorded fauna species in MHRWS include endemic mammals such as the golden-crown flying fox, Philippine tarsier, Philippine warty pig, Philippine brown deer, Philippine mossy-pygmy fruit bat, Philippine monkey, Philippine palm civet, Philippine tree squirrel, Philippine common field rat, and Mindanao wild pig.

The Philippine eagle has been recorded in the Park, as well as endemic bird species including the Philippine glossy starling, Philippine flowerpecker, Philippine turtle dove, Philippine coucal, Philippine hawk-eagle, Mindanao bleeding-heart, Philippine cockatoo, and the Philippine dwarf kingfisher.

In 2006, a yellow-brown rodent was discovered in the pygmy forests of Mt. Hamiguitan and identified as a new species. The discovery of the Hamiguitan hairy tailed rat reinforces the rich biodiversity of the wildlife sanctuary and strengthens the need for its effective conservation.



Pitcher Plant. Photo by the Biodiversity Partnerships Project

Recorded wildlife in MHRWS

- 957 species of plants
- 423 species of animals
- 16 species of mammals
- 53 species of birds



Philippine Eagle. Photo by Klaus Nigge



Photo by the Biodiversity Partnerships Project

Lakes, waterfalls and bonsai fields

Visitors can enjoy a number of recreational pursuits in Mt. Hamiguitan. Some of the local attractions include the Tinagong Dagat or Hidden Lake, which has an area of about five hectares.

The bonsai field or pygmy forest is located southeast from Mt. Hamiguitan and covers an estimated area of 1,234.56 hectares. The area looks like a ricefield from a distance. Plant species found in the pygmy forest include *almaciga*, cedar, *lokinai*, *yakal*, *dapdap* and *bitanghol*. On the southern portion of the bonsai field are springs, which run into two creeks.

Visitors can also go to Licub Falls and several other waterfalls on the headwaters of the Dumagooc River. The more adventurous tourists can opt to climb Mt. Hamiguitan. There are tremendous opportunities for bird watching, trekking and camping in the wildlife sanctuary.



Various routes to the peak

The protected area is accessible on the western side through three routes. The first route, which is frequently used, is via Sitio Mahayag of Barangay La Union, the starting point of the travel, which is accessible by land transportation and is about 25 kilometers from San Isidro Proper. From Sitio Mahayag, it would take a day hike to reach the dipterocarp forest and another six hours hiking the following day to reach the bonsai field or pygmy forest, and another two hours hike to reach Tinagong Dagat. Another day hike is reserved to reach the peak of Mt. Hamiguitan.

Another route is via Purok 8 of Barangay Sergio Osmeña River upstream from Purok 4, the starting point of the hike. Purok 4 is accessible by any land transport and is about seven kilometers from the town proper of Governor Generoso.

The third route, which is via Sitio Magum of Macambol, is not frequently used due to its difficult terrain. Sitio Magum is about 45 minutes by pump boat (motorized banca) from Macambaol, which is also about 45 minutes by pump boat from the port of Mati.



Photo by the Biodiversity Partnerships Project





Mt. Kitanglad Natural Park



Mt. Kitanglad Natural Park hosts one of the few remaining intact rainforests in the Philippines. The Park also provides sanctuary to an immense variety of flora and fauna, including the endangered Philippine eagle. MKRNP was declared a protected area in 2000 and is also an ASEAN Heritage Park.

The Park covers 47,270 hectares in the north central portion of the province of Bukidnon, and straddles parts of the municipalities of Baungon, Talakag, Lantapan, Impasugong, Sumilao, Libona, and Manolo Fortich and the city of Malaybalay. The Park is the major watershed that provides water for irrigation, power generation and domestic use for Bukidnon, as well as the province of Misamis Oriental, and the catchment area of the Cagayan, Tagoloan and Pulangi river system.

Rich forests and exceptional biodiversity

Habitat types of Mt. Kitanglad include lowland evergreen forest, lower montane forest, upper montane or mossy forest, grasslands, freshwater wetlands, and caves. These habitats protect a large population of flora and fauna endemic to the Philippines, many of which are already endangered.

Aside from the Philippine eagle, other avian species include Whitehead's swiftlet,

Region: Region XI

Province: Bukidnon

City/Municipality:
Baungon, Talakag, Lantapan,
Impasugong, Sumilao, Libona,
and Manolo Fortich; and
Malaybalay City

Area: 47,270 hectares

Year/date of establishment:
2000

Legal instrument: RA 8978

Mindanao lorikeet, Mindanao racquet-tail, Mindanao scops owl, slaty-backed jungle-flycatcher, red-eared parrot finch, and Apo myna. Numerous bat species have been recorded and these include the Mindanao pygmy fruit bat, which is abundant and endemic to the Park, and the first fruit bat species known in Asia.

Some of the endemic mammals found in the Park are the Philippine brown deer, Mindanao moon rat, Philippine flying lemur, Philippine warty pig, Mindanao tree, and Philippine tarsier.

The indigenous peoples of Mt. Kitanglad

Three main indigenous communities – the Tala-andig, Higa-onon and Bukidnon groups – consider Mt. Kitanglad the center of their well-being. They regard the mountain range as their ancestral domain as their history, myth and tradition revolve around it.

The indigenous communities have first and prior rights over the Park's natural resources as they have nurtured these resources over several generations. Academic researchers need to seek permission from the Council of Elders to conduct studies in the Park, and rituals are performed for hiking groups who wish to trek to the Park's various summits. They have become more vigilant against intrusions into their areas and continue to fight against biopiracy while preserving their cultural traditions and institutionalizing indigenous leadership.

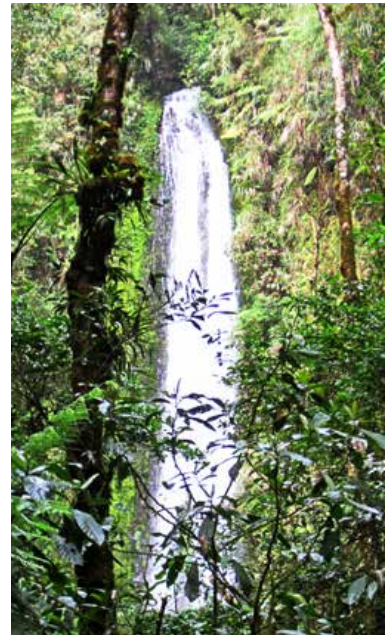
Various monuments, known as *bangkasu*, have been built around the Park to highlight the culture of the Park and its people. Offerings to the gods are made on the *bangkasu*, and some of these monuments include *bangkasu hulalawang*, the altar of the gods who keep honey, which is built in a hidden spring at the foot of Mt. Apolang. This altar marks the traditional worship area of the Tala-andig community. Another monument, the altar of the gods who protect wild animals, was built at the eastern side of Kiabansag Mountain while a third can be found at Kaatuan, Lantapan.

Magnet for mountain climbers and nature lovers

More than a dozen mountain peaks, densely forested slopes, a number of caves, several waterfalls and a hot spring can be found in the Park. Five of the Park's peaks have very high elevations: Mt. Dulang-Dulang (the highest at 2,938 meters); Mt. Kitanglad (2,899 m); Mt. Maagnaw (2,742 m); Mt. Lumuluyaw (2,612 m); and Mt. Tuminungan (2,400 m). Climbing to the summit, camping, and bird watching are thus among some of the most popular activities in the Park.

Did you know?

The name “kitanglad” is a combination of Visayan words “kita” (to see) and “tanglad” (lemon grass), taken from a legend, which says that lemon grass was the only thing visible on top of the mountain as a great flood once submerged Bukidnon.





The biodiversity of Mt. Kitanglad Natural Park

- 168 species of birds
- 131 species of butterflies
- 63 species of mammals
- 26 species of amphibians
- 25 species of reptiles

The mountains can generally be scaled all year round and various trails lead to the mountain peaks. One of the trails to the summit of Mt. Kitanglad starts at Sitio Intavas, La Fortuna, Impasugong town. Sitio Intavas can be reached by any type of vehicle and is about an hour from Malaybalay City or two hours from Cagayan de Oro City. The sitio is about five kilometers away from the foot of Mt. Kitanglad. From the foot to the summit, it is a three- to five-hour walk along the three-kilometer trail.

The Lupiagan trail to the summit of Mt. Kitanglad is located at Barangay Lupiagan, Sumilao, Bukidnon. Sumilao is five kilometers away from the Kisolon Bus Terminal along Sayre Highway. From Sumilao, an eight-kilometer road leads to Lupiagan at the foot of Mt. Kitanglad.

To climb Mt. Dulang-dulang, one trail starts at Sitio Bologan, Songco, Lantapan in Bukidnon. Public utility jeepneys ply the Malaybalay-Kibanggay route. From Malaybalay City, it takes an hour and a half to reach Crossing Bologan. The Bologan trail leads climbers to Mt. Dulang-dulang and a cross-country hike towards Mt. Kitanglad using the Intavas or Lupiagan route.

Another popular activity is camping at the Cinchona Forest Reserve at Kaatuan, Lantapan, Bukidnon. The reserve was established on 22 September 1936 and covers 1,914 hectares.

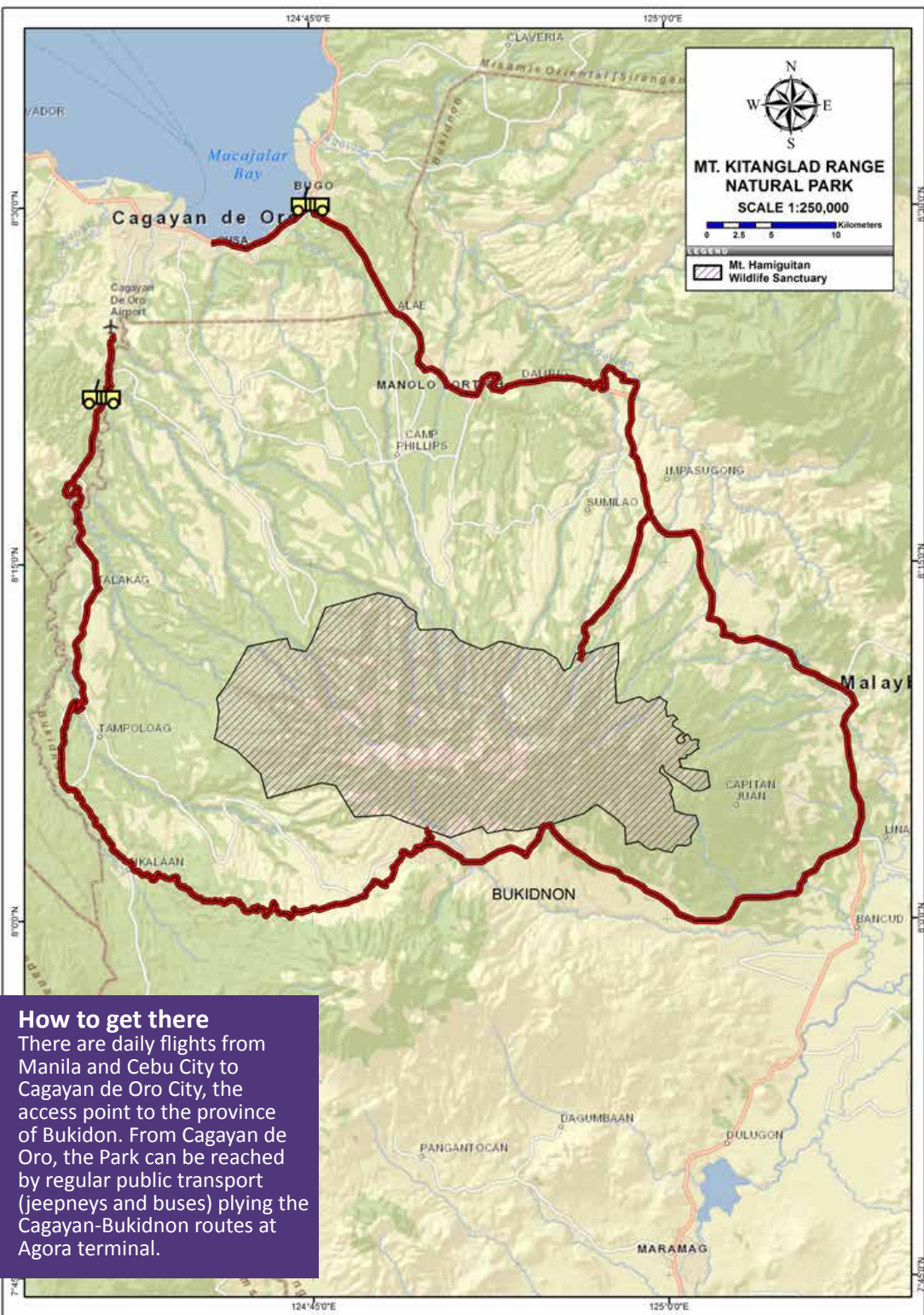


Birdwatchers flock to Mt. Kitanglad to see the nesting sites of the Philippine eagle, which are located in Sitio Mangasa, Dalwangan, Malaybalay City, and at the Cinchona Forest Reserve in Barangay Kaatoan, Lantapan. The Ecolodge at Sitio Lalawan, Dalwangan, also offers birdwatching and camping activities.

Various trails in the Park lead to numerous waterfalls. Lusok Falls at Kalanganan, Baungon is a series of three falls with a height of 30-50 meters. The waterfalls can be reached in two hours along a five-kilometer jungle trail. Nabitag Falls at Sitio Lantud, Brgy Sagarán, Talakag, Bukidnon measures 200 meters and can be reached through a two-hour walk from Brgy. Sagarán.

Mt. Kitanglad Natural Park features a School of Living Tradition, which is home to the Talaandig community. Found in Sitio Tulugan in Songco, Lantapan, the school showcases the community's various products through weaving, handicraft making, rituals, dance and music. People entering sacred areas are required to participate in a cleansing ritual called *pangawan*.





How to get there

There are daily flights from Manila and Cebu City to Cagayan de Oro City, the access point to the province of Bukidnon. From Cagayan de Oro, the Park can be reached by regular public transport (jeepneys and buses) plying the Cagayan-Bukidnon routes at Agora terminal.



Mt. Apo Natural Park



Mt. Apo Natural Park may well be the best known Park in the Philippines, as it is home to the country's highest peak (Mt. Apo at 3,143.6 meters), and is the stronghold of the Philippine eagle. Spanning a total of 54,974 hectares, the Park stretches over two administrative regions, namely Kidapawan City and the municipalities of Makilala and Magpet, Cotabato province, Region 12; and municipalities of Bansalan and Sta. Cruz and Digos City, Davao del Sur, and Davao City, Region 11.

Mt. Apo was first declared a national Park in 1936 and proclaimed a natural Park in 2003. Mt. Apo Natural Park is an ASEAN Heritage Park, one of seven in the Philippines.

Haven for rare and endemic species

The Park embraces a variety of forest types, including lowland evergreen, montane, mossy, and scrubland forest at the summit of Mt. Apo. These and numerous mountain lakes, waterfalls, and hot springs nurture an amazing array of plant and animal life, some of which are rare and endemic.

Endemic flora found in the Park include *almaciga*, *almon*, *igem*, *kalantas*, Mindanao *kalingag*, and *apo bubonan*. The *waling-waling*, Queen of Philippine orchids, is endemic to the provinces of Davao, Cotabato, and Zamboanga, and can also be found on

Region:
Region XI and Region XII

Province:
Cotabato and Davao del Sur

City/Municipality: Kidapawan City, municipalities of Makilala and Magpet, Cotabato, Region 12; municipalities of Bansalan and Sta. Cruz, and Digos City, Davao del Sur, and Davao City, Region 11.

Area: 54,974 hectares

Year/date of establishment:
2003

Legal instrument:
Proc. No. 882 (24 September 1996); RA 9237 (3 February 2004); DAO No. 2010-03 (12 February 2010); RA 9237 (2003)



Pithecophaga jefferyi

The Philippine eagle is among the largest and most powerful eagles in the world and is geographically restricted to the islands of Luzon, Samar, Leyte, and Mindanao. Declining forests and food sources, poaching, mating and breeding behavior, and slow reproduction have contributed to the decline of the species.



Did you know?

Mt. Apo is a dormant volcano, which last erupted in 1640. Sometimes its upper southeastern slopes appear to be covered with snow when viewed from the Provincial Capitol of Davao del Sur. On closer inspection, it is actually covered with sulphur (which is yellow) coming from hundreds of sulphur vents on the upper slopes.

Mt. Apo. It is considered rare in the wild and was declared the country's national flower alongside the *sampaguita* in 2003.

The rich fauna of the Park includes two critically endangered bird species, the Philippine eagle and the Philippine cockatoo, locally known as *abukay*. Other endangered bird species include the Mindanao scops owl, lesser eagle owl, Mindanao lorikeet, writhed hornbill, Mt. Apo myna, Apo lorikeet, and Bagobo babbler.

There are many more rare interesting species in the Park, such as the tudaya giant rat, wild pig, tarsier, tree shrew, and Philippine brown deer.

The wide ranging habitats and the rich biodiversity in the Park are the primary reasons why Mt. Apo is considered as one of the Key Biodiversity Areas of the Philippines.

The Park and its peoples

Seven indigenous groups – Manobos, Klatas, Bagobo, Ubos, Atas, K'lagans and the Tagacaolo – call Mt. Apo their home. They live on the lower slopes of the mountain, which they consider their ancestral domain and sacred ground, and the burial ground of Apo Sandawa, their great forefather. To them, the name Apo means “lord” or “ancient ancestor.” Mt. Apo is considered the wellspring of their spiritual and cultural way of life, and source of food and medicine.

Highland mountains, waterfalls and hot springs

Mt. Apo has attracted thousands of visitors for years, with most seeking the distinction of climbing the country's highest peak. Several access routes lead inside the Park, but three are the most accessible. These are the northeast trail through Baracatan, which is steep and may take three days of hiking; northwest trail from Kidapawan, Cotabato, which is a two-day hike; and southwest through Makilala, which is also a two-day trek.

But there is more to the Park than just scaling Mt. Apo. The mountain is distinguished by mountain lakes such as Lake Venado, the highest lake in the country with an estimated surface elevation of 2,194 meters above sea level. Venado is Spanish for "deer" referring to the deer-like shape of the lake. The locals, however, call the lake "linaw", a Cebuano term for "clear" for the crystal-clear water of the lake. The local people believe that the lake is enchanted by spirits. Lake Venado is a famous campsite for mountain climbers and a stopover towards the peak. Lakes Maag and Jordan are found on the summit grassland.



Mt. Apo's rich wildlife

Over 800 species of flora

- 629 vascular and non-vascular species
- 572 ferns and angiosperms
- 57 bryophytes or mosses
- 37 species with economic value

378 species of fauna

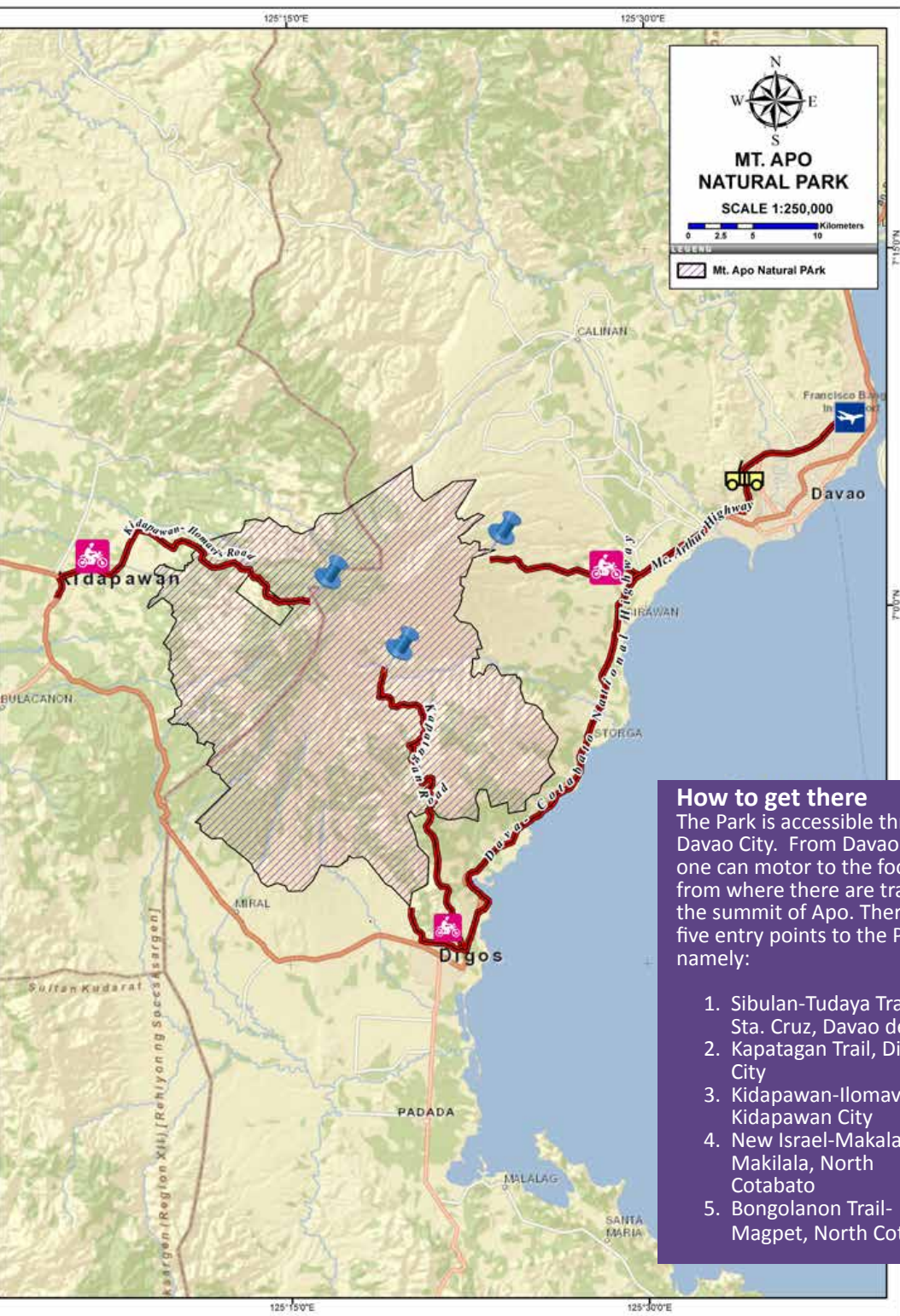
- 53 species of mammals
- 272 species of birds
- 17 species of amphibians
- 36 species of reptiles
- 118 species of butterflies



Lake Agco, also known as the “Blue Lake”, is located in Kidapawan City. Some parts of the lake are icy cold, while others are hot enough to cook an egg, with heat coming from underwater volcanic vents.

Waterfalls and hot springs can be found at various points in the Park. One of the most scenic waterfalls is Tudaya Falls in Sibulan, Sta. Cruz, which is three kilometers from the Bagobo settlements. According to the locals, the enchanted falls roars angrily at times and offerings have to be made to appease evil spirits. Montebago Falls is located between Nueva Bida and Batasan and can be seen from the highway, resembling a thin white veil with an approximate elevation of 300 meters. Other waterfalls in the Park include Mabbu and Tagibaka both at Bongolonan, Magpet, Cotabato, and Bacoco Falls in Kapatagan, Digos City.

Well known hot springs in the Park include Batasan Hotspring at Makilala, Cotabato Province; Palaca Hotspring at Sibulan, Sta. Cruz, Davao del Sur; and Mainit Hotspring in Sta. Cruz, Davao del Sur. Flortam Hotsprings is located at Brgy. Batasan and has mini-pools of both hot and cold water.



How to get there

The Park is accessible through Davao City. From Davao City, one can motor to the foothills from where there are trails to the summit of Apo. There are five entry points to the Park, namely:

1. Sibulan-Tudaya Trail , Sta. Cruz, Davao del Sur
2. Kapatagan Trail, Digos City
3. Kidapawan-Illomavis, Kidapawan City
4. New Israel-Makalangit, Makilala, North Cotabato
5. Bongolanon Trail- Magpet, North Cotabato

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