

The Philippines

The Ultimate Eco Tourist Guide

Unique Biodiversity
Found on the Islands

Human Activities
that are Threatening
Biodiversity

Rainforest Degradation
and it's Consequences

Current Conservation
Efforts

The Fate of the Philippines
Biodiversity

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By: Haley Vasarella

About the Philippines

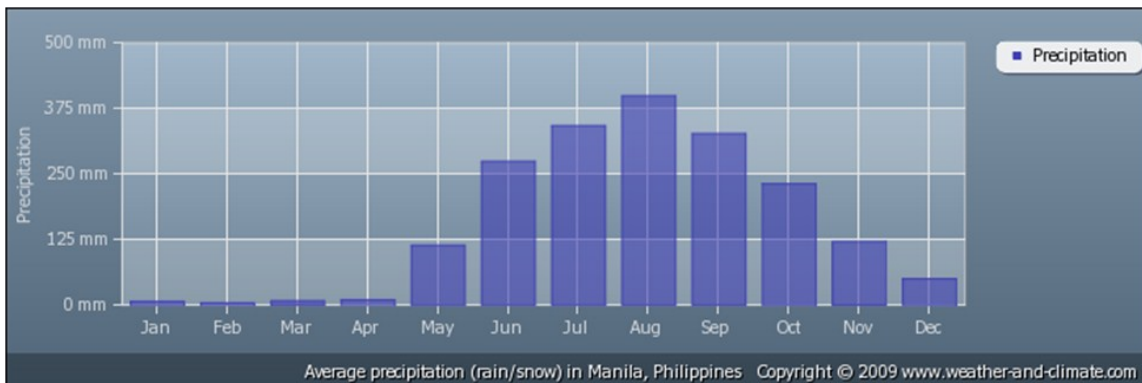


Map of the Philippines Hotspot
(Conservation International, 2007)

- The Philippines is a group of 7,107 islands in Southeast Asia.
- Latitude: 13°N and Longitude: 122°E
- Mostly mountainous inland, with narrow and vast coastlines that stretch 36,289 km.
- Biome type: Tropical Rainforest
- Total landmass across all 7,107 islands is 297,179 km^2 .

Did you know?
That the Philippines is part of the Ring of Fire in the Pacific Ocean?

Weather



Graph of the monthly average precipitation measured in millimeters in the capital city, Manila, Philippines. (World Weather and Climate Information, 2010-2011)

The Philippine climate is considered Tropical Marine which means it has high temperatures and high atmospheric humidity year round. However there is a dry season and a wet season so when traveling to the Philippines one might want to base their trip around. The Philippine's dry season is from No-

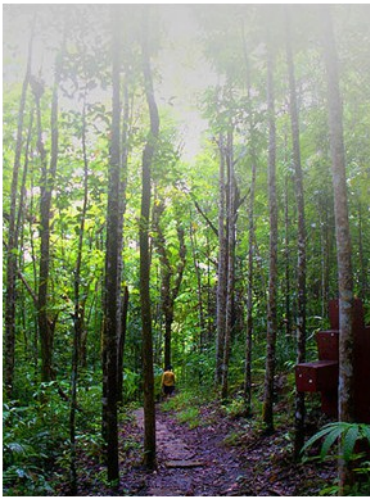


Coron Island in Palawan
(Conservation International, 2007)

vember to April (northwest monsoon) and a wet season from May until October (southwest monsoon). It's highly recommended to go during the dry season to get the most enjoyment out of an Eco Tour, because the wet season has a tendency for flooding and mudslides.

Unique Biodiversity

The tropical sun, the previously massive areas of rainforest and the several thousand islands have aided the Philippines in becoming one of the most biologically diverse areas in the world. In other words it is a “biodiversity hotspot”, rich in species that are found nowhere else on the planet. They are called endemic species and they, along with the entirety of the hotspot are in danger of extinction. Mostly because of human population growth rising and the ever increasing need of natural resources to sustain them. The Philippines rainforest is being cleared and turned into things like roads, forever altering the whole ecosystem and putting everything that exists within them on the verge of extinction, because of human interference. Unless humans learn to live sustainably and coexist with nature and reverse the effects, we are forced to face catastrophic consequences.



Dipterocarp trees in the Philippines Rainforest (Storm Crypt)

Plants

There are more than 9,250 vascular plant species that are native to the Philippines and 1/3 of them are endemic species. Although there isn't any endemic plant families there is 26 endemic genus species including Gingers, begonias, gesneriads, orchids, pandans, palms, figs and dipterocarps. 70% of the 1,000 different orchid species are found only in the Philippines.

Dipterocarp trees: Deforestation

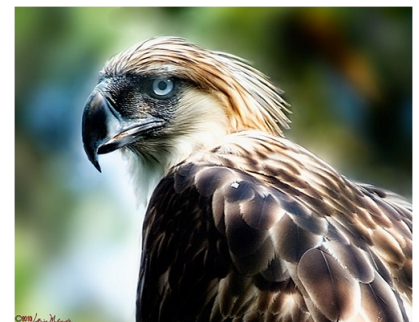
Dipterocarp trees are huge trees that can grow to over 1,000 meters above sea level and provide the canopy cover for the whole rainforest. They are valued for their timber and the clearing of this vital plant species is creating many concerns for other vital species within the ecosystem which is ultimately impacting the total health of the biome.

Birds

There are over 530 different bird species found in the Philippines. Only 35% are endemic, yet 60 of the species are threatened. The BirdLife organization has identified 7 Endemic Bird Areas that support birds that aren't found in other parts of the Philippines.

Philippine Eagle: Habitat Destruction

The Philippine Eagle is the second largest eagle in the world. It only breeds in lowland rainforest areas. The deforestation has destroyed the essential breeding grounds everywhere except on the islands of Luzon, Mindanao, and Samar. There are currently less than 700 individuals left and without proper breeding grounds the livelihood of the species is questionable.



The Philippine Eagle, visualizing the future of its species (The Mighty Philippine Eagle, 2008)

Did you know?

16 new mammal species were discovered in the Philippines in the last 10 years?

Captivity programs encouraging breeding haven't had success so habitat protection is the last hope for the Philippine eagle.

Unique Biodiversity Continued



Tamaraw or water buffalo in a Philippine pasture (Philippine Pasture, 2008)

Mammals

About 61% of the 165 different mammal species are endemic, which is one of the highest levels of endemic mammals throughout the world.

Tamaraw: Habitat Destruction

The Tamaraw is a water buffalo that live only on the island of Mindoro. The population has drastically decreased from 10,000 individuals a century ago to a few hundred.

Reptiles

There are about 235 different Reptile species and 68% are endemic to the Philippines.

Philippine Freshwater Crocodile: Habitat Destruction

The freshwater crocodile is the most threatened crocodile in the world. Wild populations of the species dropped from around 500-1000 individuals to only about 100 by 1995. However there has been a recent discovery of a population in the Sierra Madre of Luzon which brings good news to the conservation along with starting the Crocodile Rehabilitation, Observation and Conservation Project that will help bring awareness to help protect the Crocodiles habitat.



Philippine Freshwater Crocodile (Madeleine Bianchi)

Amphibians

*5% of the 90 different amphibian species are endemic in the Philippines and these numbers are on the rise as more and more endemic species are being discovered.

Panther Flying Frog: Habitat Destruction

They have adaptations like extra skin flaps and webbing between their toes and fingers in order to get lift in the air when gliding. To breed they glide down from trees into plants that dangle above water. 22 of the 26 endemic frog species found in the Philippines are threatened.



Flying Frog(Conservation International., 2007).

Fish

280 inland fish species can be found in the Philippines, 65 of them are endemic and they are mostly confined to one lake like the freshwater sardine.

Freshwater Sardine: Invasive Species causing extinction of endemic species

Found only in Taai Lake in Mindanao and is on the verge of extinction along with most of the endemic freshwater fish in the lake due to the introduction of exotic species like Tilapia.



School of freshwater sardines in the Philippines (Davide Lorpresti)

Causes and Consequences of Deforestation

500 years ago timber was used to make boats for Spanish armies. Up until 1945 two-thirds of the country was still covered by the original forests, but logging rates increased dramatically between 1969 and 1988. Within that time span 2,000km² were logged annually, but in recent years the logging has decreased even though illegal logging is still taking place. Another threat impacting the forests is mining; in

Did you know?

That 45 different species of dipterocarps once dominated the Philippines?

1997 mining activities took place only in one-fourth of the total area of the forest. Today over half the forest area is being mined. Land conversion has also



Timber logging of Dipterocarp trees (What Triggers Mass Flowering of Dipterocarp Forests in Southeast Asia?)

been impacting the decline of the rainforest by replacing it with roads, irrigation systems for agriculture, power and energy products and planned ports and harbors. This mismanaged land use of the very fragile

rainforest biome has caused many other environmental concerns like soil erosion, coral reef degradation, and Increase of pollution in mangrove swamps. Because of the clearance of timber in the rainforests, the soil that is used to protection from the high canopies is now exposed to severe weather that can erode the soil. This erosion of the soil sediment is running off into waterways and ultimately going into the ocean, polluting the delicate reef ecosystems.



Starfish found in the Coral Reef of the coast of the Philippines (Conservation International, 2007)

The coral reef ecosystems have some of the highest marine biodiversity rates in the world, and are in serious risk of degradation because of soil erosion that is causing pollution of sediments and over-fishing that uses cyanide and dynamite. The mangroves provide a barrier between the land and the ocean that helps absorb shock from hurricanes, and are filled with nutrients that are beneficial in fish breeding grounds but the vegetation is being cut down and used for charcoal, while the ecosystem is harmed due to fish farming and further development.

Current Conservation Actions Underway

- 5 new protected areas were started in 2002
- In 2003, the Peñablanca Protected Landscape and Seascape expanded to 118,108 hectares from 4,136 hectares.
- Quirino Protected Landscape was established recently by a presidential proclamation and covers 206,875 hectares in Northeastern Luzon.
- The Protected areas are ensuring the conservation of biodiversity by conserving Key Biodiversity Areas that are sites with populations of globally threatened or geographically restricted species. (Conservation International, 2007)

Did you know?
The highest point in the Philippines is Mount Apo at 2,954ft above sea level?



Dipterocarp trees in the Philippine Rainforest (Lam Dong Portal)

- The CEPF is supporting Conservation International –Philippines, the Chicago Field Museum, Haribon Foundation and other local partner's plight in prioritizing the priorities identified in the 2000 Philippines Biodiversity Priority Setting Process. In 2001 the Haribon Foundation published the 117 Important Bird Areas that contain globally threatened, restricted-range and congregatory species which is the starting point to identify Key Biodiversity Areas.
- Field work is very important because it helps identify new endemic species that further helps the prioritization of the Key Biodiversity Areas.
- The Philippine Cockatoo Conservation Program on Palawan has had a lot of progress reducing the theft of the Cockatoo's eggs.

The Possible Fate of the Philippines



Healthy rainforest in the Philippines filled with Dipterocarp trees that are vital to the entire ecosystem (Biodiversity Project)

Biodiversity Survivability

In order for the high levels of biodiversity to remain in the Philippines it is crucial to protect the Key Areas of Biodiversity found in the new protected areas that were created recently. The good news is that these areas have shown signs of growth since they originally started; the bad news is that a total reversal of all the effects that have happened because of deforestation may take several generations. Today's volunteers are very important to be able to continue the growth of the Philippine Rainforest for years to come. For more information on how you can make a difference please visit <http://www.conservation.org/give/Pages/donate.aspx>.

Biodiversity Demise

If we continue to allow the degradation of the Philippine's rainforest we will only continue in the same direction that leads to more forest being turned into developmental projects, an increase of threatened species, the extinction of vital species, the degradation of other ecosystems and ultimately a loss in biodiversity found nowhere else on Earth. As the rainforests get cleared, habitats and breeding grounds of the animals that live within them get destroyed, forcing them to either move, adapt or die. As mentioned before the Philippines is a country made up of thousands of islands so moving to a new location is limited to few species capable of migration. Leaving the options of adapting or dying off which is why so many species are threatened because of the difficulty of this task. It takes several generations for animals to pass down adaptations that help them survive and with all the illegal timbering, mining, and land conversion accelerating progress at rates much faster than the animals can adapt, the only thing left for them is to die off. Another consequence of the deforestation is that water cannot get absorbed by the plants so that water turns into runoff water that creates erosion of the soil. Those sediments get carried off into the ocean impacting the Coral



Cleared Rainforest (R. Grant, 2008)

Reef ecosystem polluting it and causing a destruction of marine habitats that leads to more biodiversity loss of marine wildlife. Those nutrients aren't needed in the water but are vital to the growth of vegetation in the rainforests. Those extra nutrients in the could potentially cause excessive growth of algal blooms which let off unnecessary carbon dioxide into the atmosphere further aiding the greenhouse gas effect. The green house gas effects along with air pollutants (caused by humans who destroy forests and replace them with factories that create the air pollutants,) are a main reason for Global Warming. Global Warming affects everyone and everything on Earth, not just the people in the Philippines.

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