

One forest, Three nations: the biological and cultural diversity of Belize

National significance with a regional impact

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Even though over 70 percent of Central America has been deforested within the past 40 years, there still exists a grand expanse of tropical forest in Northern Central America. This is the largest block of tropical forest north of the Amazon Basin and covers an area of 25,000 km². Stretching into the countries of Belize, Guatemala and Mexico, it is often referred to as the "Selva Maya" or Maya Forest (Primack et al. 1998). This rich land is home to a legacy of natural and cultural resources, unique to the region.

For more than 1,000 years, this forest was home to one of the most developed civilizations of its time, that of the ancient Maya. Today, the remains of this rich legacy are found throughout the forest, reflecting a culture which practised mathematics, astronomy and a sophisticated writing system, as well as a calendar system measuring time more accurately than the modern Gregorian calendar (Nations et al. 1998).

The natural resources found within this forest are another expression of its unique profile. Standing at the foot of an ancient Maya temple, one could catch a glimpse of a rare Ocellated Turkey passing by, or see the tracks of the endangered Central American Tapir. The roar of the Black Howler Monkey is often the vocal jungle backdrop. Other animals which share this tri-national forest, include the largest cat of the American tropics, the Jaguar, as well as one of the world's most endangered parrots, the Northern Central American Scarlet Macaw.

Belize, having over 40 percent of its land under some category of official protection, provides a vigorous stronghold for this important natural and cultural diversity. Tucked within the Maya Forest of Belize is some of the most undisturbed tropical habitat remaining in the region. The Central Maya Mountains, difficult to access, shelter undocumented Maya ruins and provides sanctuary to a wealth of species of flora and fauna, some even newly discovered. This is an important ecosystem for the nation, and for northern Central America, as well.

Illustrating this rich natural heritage is the highest forested region in Belize, known as Doyle's Delight. Reaching 1,124 meters within the Chiquibul Forest Reserve, and lying along the main divide of the Maya Mountains, an expedition was undertaken here in the

mid-1990s which resulted in 130 species of plants collected that had never before been recorded in Belize. One species of bamboo found on this same field investigation was completely new to science (Matola et al. 1995). If so many new species could be found and recorded in just a single expedition, the potential number of species still unrecorded and awaiting documentation, staggers the imagination.

Important Maya sites, undisturbed for over 1,000 years, have also recently seen discovery and documentation. Lying within the orbit of the huge Maya complex of Caracol in the Chiquibul National Park, these ruins are destined to reveal more about the lives of the ancient Maya.

Knowledge of these ancient cities has been gleaned from writings left behind by their former occupants. It appears that the two great Maya kingdoms, Tikal, in present day Guatemala, and Belize's Caracol, did not coexist peacefully. Further investigations of sites nestled in the Central Maya Mountains and not yet fully studied by archaeologists, can only add to the data banks which tell the story of this ancient civilization.

Providing sound stewardship for these resources and preserving the integrity of the landscape where these important resources are found, empowers the countries sharing the forest. More than ever before, the nature-based tourism industry is vital to the economies of Belize, Guatemala and Mexico. While tourism still stands as the world's largest civil industry, the nature-based segment of this industry is its fastest growing component. In Belize, it is currently one of the largest earners of the country's gross national product, GNP (Belize Tourist Board 2001). Tikal National Park alone earns millions of dollars annually and supports approximately 15% of tourists visiting Guatemala (INGUAT 1990). The signature resources of the Maya Forest, those which attract visitors and income into the region, are both its cultural and natural amenities.

To realize the significant role a species plays into the economic base of Belize, Guatemala and Mexico, the focus should be upon the Northern Central American Scarlet Macaw. (The Belize Zoo [website](#) offers photos and video footage on the macaw. The picture below is taken from that site.) Recognized as a sub-species to the Scarlet Macaws found in South America and even in southern Central America (Weidenfeld 1994), it has been determined by field investigations, that fewer than 1,000 of these birds exist within the Maya Forest.



This sub-species of Scarlet Macaw is viewed as so important to the region, that it has seen the formation of a tri-national coalition whose primary objective is to ensure its preservation for remaining generations. This coalition, Guacamayas Sin Fronteras (Scarlet Macaws Without Borders), has annual meetings where research is shared, and efforts are made to strengthen the protection for this rare parrot.

One conservation measure initiated on behalf of the remaining Scarlet Macaws in the Maya Forest, involved a specific address about its official status of protection. Guacamayas Sin Fronteras, realizing the vital role this species plays in the economic profile for three nations, voiced concern that the protected status assigned by BirdLife International to the Scarlet Macaw, was "Least Threatened". This did not reflect upon its CITES Appendix 1 status, the strongest category assigned to any species, nor did it reflect upon its scant remaining populations in Northern Central America.

BirdLife International has the mandate to assign levels of protection status to 9,000 species of birds worldwide. Due to the enormous magnitude of this task, they address

protection status on a species level only. However, because the Scarlet Macaws found in the Maya Forest are so rare, BirdLife International addressed their conservation specifically. In a letter, officials noted that this sub-species should be considered "Endangered", and if its reproductive grounds were fragmented further, their status should be elevated to "Critically Endangered" (BirdLife International 2001).

In Belize, the Scarlet Macaw is a dynamic force within the country's nature-based tourism industry. During certain times of the year, flocks of these colourful birds arrive to the Maya villages of Red Bank and San Pablo where they feed on certain seeds of trees growing on nearby hillsides. The Maya villagers, with the assistance from foreign-funds and local NGOs, have created an exciting community tourism industry.

Many have become capable tour guides, leading local and foreign visitors on trails to view the Scarlet Macaws. The Maya women make handicrafts to sell to visitors. There is a guesthouse where people can stay which makes early morning observations of Scarlet Macaws easy. All of this empowers these communities, making them stronger both economically and culturally.

The Scarlet Macaws of Belize play a significant role in the regional level of socio-economics. While they feed in the Maya villages in southern Belize during certain times of the year, their reproductive grounds in the country are known to exist only in the Upper Macal river valley (Mallory and Matola 2001 pub. forthcoming). This area has been noted as the only region within the Maya Forest where these birds exist in an undisturbed habitat (Inigo and Carreon 1998). They feed, breed and raise their young in this river valley today, much as they did hundreds of years ago.

Scarlet Macaws are known to fly long distances in search of food resources (Munn 1992; Renton 1994). The Scarlet Macaws of Belize are undoubtedly flying into the neighbouring forests of Guatemala and Mexico, where their natural history is strengthened by the exchange of genetic and food resources. Much like what occurs in Belize, nature-based tourism is also an important part of the economic strategies for the communities found in these parts of Guatemala and Mexico.

Shared natural resources, such as outlined above, lead to shared common positive goals between nations. The Scarlet Macaw, a signature species of the Maya Forest, can lead to a stronger liaison between Belize, Guatemala and Mexico, as it links these three nations on an important natural resources level.

Preserving this rare parrot species places an entire region in a strategically favourable position when considering the imminent growth of its nature based tourism industry.

It should also be noted that tourism in this region has even new potential for growth. Since the terrorist attacks of 11 September 2001, tourism has decreased worldwide. However, as time passes, people will be travelling. Discussions with tourism officials in Belize have indicated that people once considering travels to the far eastern parts of the

world will likely consider changing their plans, and making trips to locations considered to be safer destinations. This is indeed reflected in the upcoming cruise ship schedules for Belize in 2001-2002. Cruises scheduled for eastern destinations have cancelled these journeys and as a result, more of this particular vacation travel has been directed toward the Central American region (Discovery Expeditions pers. com. 2001).

The Maya Forest is also an important habitat for the Jaguar. This great cat, the largest predator of the neotropical forest, ranges great distances. For instance, male jaguars are known to travel over 70 kilometers daily in search of food (Rabinowitz 2000). In Belize, the Cockscomb Basin Wildlife Sanctuary, covering a territory over 200,000 hectares, has been given protection status specifically to target the preservation of the Jaguar. However, the Jaguars found there undoubtedly travel into neighboring forests, both for search of food and breeding partners (WCS 2001, Rabinowitz 1985).



The Jaguar is discreet by nature, and therefore not as easy to view as a Scarlet Macaw. However, it is still a compelling moment when the tracks of these animals are seen.

Effective measures necessary to preserve any species involve preserving the habitat upon which they depend. Belizean forests, some standing today completely undisturbed, hold the key to maintaining a healthy biodiversity, both on a local and regional perspective. A solid mandate to preserve the Maya Forest goes beyond the philosophy of protecting flora and fauna solely for its aesthetic value. These resources integrate into the socio-economic profile of the countries which harbor them, and directly impact upon the lives of people.

Maintaining the integrity of the Maya Forest, a forest shared by three nations, can only be beneficial to the species dependent upon it for sustenance and to the people who, in turn, depend upon these natural resources to empower their living conditions.

References

Belize Tourist Board, BTB, 1998. In: *Five year plan for Belize*: Black Stone Corp, Toronto and Help for Progress, Belmopan. June 1998.

Discovery Expeditions, 2001. Pers. Comm. Kelvin Ramnarace, Director e-mail communication to Belize Zoo.

Inigo-Elias, E and G. Carreon 1998. *Final report from the Trinational Workshop for the Conservation of the Scarlet Macaw, Ara macao, in the Maya Forest*. Chiapas, Mexico 28-

30 Sept. 1998.

Instituto Guatemalteco de Turismo (INGUAT) 1990. *Estadísticas de Turismo 1989*. Boletín No.18. Guatemala City, Guatemala

Mallory, E. and S. Matola 2001. Scarlet Macaw distribution and movements in the Maya mountains of Belize: Implications for Conservation (pub. forthcoming).

Matola, S. (editor). 1995. *Expedition to Doyles Delight, southern Maya mountains, Belize*. FPMP occasional series no.5.

Munn, C.A. 1992. Macaw Biology and Ecotourism, or "when a bird in the bush is worth two in the hand". Pp 47-73 in *New world Parrots in Crisis: Solutions from Conservation Biology*. S.R. Beissinger & N.F.R. Snyder (eds). Smithsonian Institution Press, Washington.

Nations, J. And D. Bray, 1998. *The Maya Forest in Timber, Tourists and Temples. Conservation and Development in the Maya forest of Belize, Guatemala and Mexico*. Island Press, Washington, DC.

Primack, R., Bray, D. and Ponciano, I. (Eds). 1998. *Timber, Tourists and Temples. Conservation and Development in the Maya forest of Belize, Guatemala and Mexico*. Island Press, Washington, DC.

Rabinowitz, A. 1986. *Jaguar*. Arbor House, NY 351 pp.

Rabinowitz, A. 2000. Pers. Comm. letter to Sharon Matola describing Belize range of jaguars.

Renton, K. 1994. *Seasonal variations in encounter rates and the factors limiting breeding density of macaws, Ara species, in the floodplain forest of the Manu Biosphere reserve, Peru*. M.Sc. Thesis, University of Kent at Canterbury, UK.

Wildlife Conservation Society, WCS, 2001. Pers. Comm. Researcher Lindy Silver to Sharon Matola re: camera trapping/jaguars Cockscomb Basin Wildlife Sanctuary.

Wiedenfeld, D.A. 1994. A New Subspecies of Scarlet Macaw and its Status and Conservation. *Ornithologia Neotropical* 5: 99-104.

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