

Zapata Swamp

Cuba's Largest, Wildest Wetland

By Lázaro Miguel Echenique

Abstract: In September 1996 at the Research Center of Kushiro Shitsugen National Park in Hokkaido, Japan, during a discussion with colleagues from South Africa, Asia, Latin America, and Japan, a startling event influenced my perception of the importance of Zapata Swamp, a wetland back home in Cuba, where my science study is centered.

WE WERE LOOKING at a map of the Earth with all wetlands recognized by the RAMSAR Convention (RAMSAR 1971) highlighted in red, as we were discussing the importance of wetlands of the world. As I was describing my work at Zapata Swamp it was noted that there was no red color in Cuba indicating this wetland. My colleagues asked how it was possible for such an important wetland not to be a RAMSAR site. Sadly, the reasons have nothing to do with the natural values of this wetland area. Cuba was simply not a part of the RAMSAR Convention.

This incident made me realize the importance of cooperation with the scientific community on issues related to protection of our most natural wetlands. At that time I resolved to obtain international recognition for this national Cuban treasure and work to assure its continued protection.

Zapata Swamp

Located in northern Matanzas province, the 452,000-hectare (1,116,440-acre) Zapata Swamp is an amazing wilderness and one of the most important natural areas in Cuba. In general, this wetland has been recognized as an endemism area for birds, and it provides habitat for the Cuban crocodile. However, scientific studies have most frequently occurred in areas with greater endemism and diversity counts in the mountain regions and archipelagos of Cuba. The high endemism and diversity rates in these regions make them stand out in the national and international context, but they cannot be compared to Zapata Swamp in many other aspects. The size and naturalness, as well as its unique biogeographic attributes, make Zapata Swamp a premier unit of the Cuba National System of Protected Areas.

Zapata Swamp flora is characterized by high species richness (13% of the country's flora); however, it does not stand



located in northern Matanzas province, the 452,000-hectare (1,116,440-acre) Zapata Swamp is an amazing wilderness and one of Cuba's most important natural areas. Photo by Bret Walker.

out for its endemism (Del Risco, et al. 1995). Nearly 900 plant species have been recognized in the swamp, with 121 of them being endemic to Cuba and 6 locally endemic (Oviedo 1995). Though it is not an area with high endemism, Zapata Swamp contains unique plant communities such as the Plant Complex of Swamp Spring (Mutiiz 1995). This complex is present only in this wetland of Cuba, endowing it with unique endemic properties at the flora community level. Furthermore, the ecological characteristics of this territory, which vary across subzones of the swamp and seasons of the year, provide great variety within this ecosystem.

Though less studied, Zapata Swamp is also important for its fauna diversity. For example, there are 172 species of birds



Evidence of poaching and illegal logging has been detected in remote zones where canals constructed for logging early in the century make access easier. Photo by Brett Walker.

(CNP 1996). This is a significant number for the Caribbean insular region. The presence of three local endemic bird species, which are endemic genera of Zapata Swamp, and an endemic species of mammal (all of them considered critically threatened), provide this wetland with a special status. The frequency of endemic faunal species in Zapata Swamp is noteworthy due to their local significance rather than their total numbers, the criterion most commonly used when making comparisons with other areas. In this wetland is found the only endemic crocodile species of the Caribbean insular region, the Cuban crocodile. Zapata Swamp is also the only area in which the eight endemic bird genera of Cuba cohabitate.

geographic unit and because of its forest cover. The high availability of heterogeneous habitats makes this region the reservoir of one of the largest aquatic bird communities in Cuba, with significant numbers of migratory birds coming from Canada and the United States. In other places of the country there are also large aquatic bird communities such as in the delta of Cauto River (an Ecological Reserve); however, the unique conditions existing in Zapata Swamp are not repeated elsewhere in the country. Only Lanier Swamp, in the Isle of Youth, shares some common elements with Zapata Swamp, but the size, naturalness, and biogeographic importance of Lanier Swamp are much less significant.

With 257,000 hectares (634,790 acres) of forest cover, 15% of the Cuban total (Viñola 1995), Zapata Swamp stands out as one of the most important green zones in the Caribbean insular region. The area of forest cover for the whole of Jamaica and even most of the Caribbean islands (UNEP 1996) is smaller than the forest area in Zapata Swamp, which is exceeded only by Puerto Rico and the Dominican Republic. These comparisons are not

aimed at minimizing the importance or contribution of other forested islands in maintaining the natural heritage of the region, which is considerable. However, because the main threat devastating the Caribbean islands is habitat loss, it is important to understand that Zapata Swamp is one of the most extensive areas that remains as a remnant of the natural richness of the West Indies.

Zapata Swamp and Wilderness Protection in Cuba

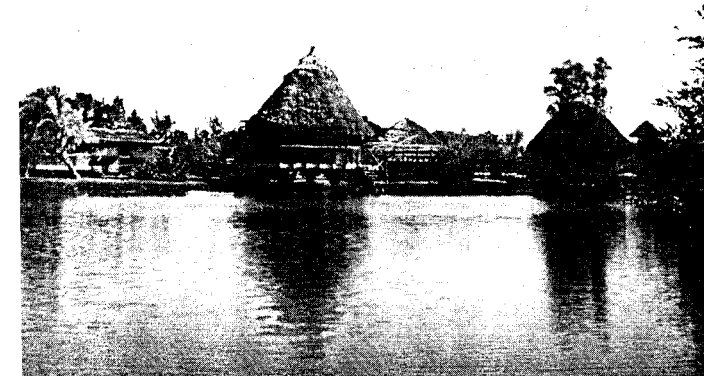
Trends toward nature protection in Cuba began more than 100 years ago, though they have often been closely related to economic influences (Samek 1968). Zapata Swamp remains relatively undisturbed because of the lack of economic incentives for exploitation. In 1936, six years after the first Cuban National Park, Sierra Cristal National Park, was created, the region of Zapata Swamp, then belonging to Las Villas province (Samek 1968), was declared a National Refuge for Fishing and Hunting. This declaration was never enforced. However, the Zapata Swamp was still not exploited as much as other regions in the country because of the difficult access to its most remote zones. The aggressive advance of deforestation that has predominated at other places was avoided at Zapata Swamp.

Since 1959 some new development has occurred in the region, but conservation became and continues to be the priority. In 1974 the first formal proposal for effective protection of Zapata Swamp was made (Muñiz and Muñoz 1974). More recently Zapata Swamp was designated a Special Region for Sustainable Development (SRSD) (Law-Decree 197, 1995) in the Cuban National System of Protected Areas (SNAP). These SNAP units combine to make up a system of protected areas varying in local, national, international, and economic and social significance (see Estrada and Puga, this issue).

Threatening Forces for Zapata Swamp

Established Boundaries

Protected area planning for Zapata Swamp focuses on the need to preserve



Zapata Swamp is one of the most important tourist destinations in Cuba, especially for bird-watchers from different parts of the world. Lago de Tosoros resort, Zapata, Cuba. Photo by Brett Walker.

its precious natural resources; however, previously established boundaries make protection more complex. Consider Santo Tomás Fauna Refuge, which has existed as a conservation unit for more than 20 years. The presence of two bird species that are local endemic genera (*Cyanolimnas cerverai* and *Ferminia cerverai*) in this zone originally led to designation of the 22,122-hectare (54,641-acre) refuge. While protection of the area for these two species was motivation for protection, the distribution area is not as restricted as it was originally believed. The vegetation characteristics that exist in this refuge (swamp grasslands) extend to an area of more than 40,000 hectares (98,800 acres) that reflects the effects of fires from time to time and defines the habitat of these species. This has led to redefining this refuge by adding the adjacent area that constitutes a single ecosystem.

This reconsideration of habitat-species relationships is also occurring in the Zapata Swamp National Park (70,205 hectares or 173,406 acres), which is contiguous with Santo Tomás Refuge. One of the most promising proposals is to combine the two areas into a single unit, thus reinforcing the intent and conservation purpose of the symbolic Zapata Swamp National Park.

Societal Influences

The current ecological coverage of protected areas in Zapata Swamp is not enough to accomplish long-term conservation objectives; however, they potentially impose an important influence on regional development policies. A fundamental threat to these places now is the absence of legal authority for protection and the pressures on their boundaries due to the severe deterioration of the Cuban economy. This situation has resulted in the search for more flexible solutions to conflicts so that the needs of all sectors are recognized, thus replacing the "close the resource" approach by another one that may comply with reality.

Threats to the integrity of areas within the swamp vary; nevertheless, there is one that seems most threatening in the minds of protection specialists. This threat is evident in almost all areas far from the urban cores, and it is based on the belief that these zones are preserv-

able without exerting any kind of action to protect them. They are believed to be remote, apparently isolated from human influence. This situation, which is recognized as the classic paradigm of conservation (Pickett, et al. 1992), led to a situation where action was taken to protect only some of these units or their core zones. This situation, together with the scarcity of resources for management, has become a significant threat to this area.

In this reserve, the largest with protective management in Cuba, numerous acts of poaching and illegal logging have been detected in zones where it was believed that human influence would never reach. During inspections, access was noted to be relatively easy via canals made since the beginning of the century for timber harvest. These canals make this area more vulnerable, necessitating vigilance and management with authority.

Tourism

Zapata Swamp is one of the most important tourist destinations in Cuba, especially for bird-watchers from different parts of the world. One of the most visited resorts for birding is in the Las Salinas sector of Zapata Swamp National Park, which is recognized as one of the most important migratory bird refuges in the country and in the Caribbean insular region. The situation that most affects tourist use of many areas in Zapata Swamp and poses a threat to natural resource values is lack of suitable infrastructure. Las Salinas does have basic services necessary to support tourist demands; however, use of other natural zones in the wetland by tourists is not closely linked to protected area management objectives, though it should be.

Local Communities

Communities closely linked to the natural resources of the territory have become involved in management. In the case of some areas such as Santo Tomás, which has a community that

depends very much on local resources, pilot projects are underway to introduce sustainable use techniques for subsistence needs of the population. Until a few years ago, one of the most recurrent mistakes in protected area management was to define management direction without allowing participation by local settlers, who are the people most familiar with the area and most active in the use of resources. Even today, situations like this take place; nevertheless, change is needed and Zapata Swamp is no exception. Most of the personnel working in protected areas in the Zapata region are local settlers, so they influence opinion directly in the rest of the community.

Currently, new strategies for Zapata Swamp management depend on active community involvement. Community involvement is being introduced to all sectors and stakeholders of Zapata Swamp as part of a project of international cooperation with World Wildlife Fund (WWF) Canada and the Canadian International Development Agency (CIDA). Local communities have most of the responsibility for this project, which is making an important contribution to wilderness management in Zapata Swamp. The development of plant nurseries for sustainable development projects in communities highly dependent on protected area resources are pilot projects that have been carried out. Positive conservation results are being realized, but the increase in local interest and involvement by remote community



New strategies for Zapata Swamp management depend on community involvement. Cuban home, Nojasa, Cuba. Photo by Brett Walker.

residents in this program is itself an indication of success.

Conclusions and Implications

Zapata Swamp is a priority, in many ways, for Cuban scientists and conservationists. In fact, there are many more things we do not know about its unique character

candidate for this recognition, and now strong steps have been taken in this direction by the Cuban government. The government has also been working on applying the concept of a Biosphere Reserve to Zapata Swamp, which would be the sixth in the country (four are already established and another was recently approved). This huge territory, a nature relict in the Caribbean insular region,

of Playa Girón (Bay of Pigs) and also the abundance of tourist information that is disseminated. This information certainly attracts attention in Zapata Swamp, but the primary interest is in letting the world know about the importance of Zapata Swamp and the responsible response of the Cuban government to assure its long-term protection. I JW

LÁZARO MIGUEL ECHENIQUE works for the National Center for Protected Areas of Cuba. A graduate in biology, since 1994 he has been involved in the planning of protected areas and in research projects for the conservation of endangered endemic birds, reptiles, and mammals. He is part of the manager committee for the Zapata Swamp Sustainable Conservation Project, in cooperation with WWF Canada. Contact Lázaro at Centro Nacional de Areas Protegidas, Agencia de Medio Ambiente, Ministerio de Ciencia, Tecnología y Medio Ambiente, 18 A No. 4114 e/ 43 y 47, Playa 11 300, Ciudad de la Havana, Cuba. Telephone: (537) 22 79 70; fax: (537) 24 07 98. E-mail: echenique@cnapt.unepnet.inf.cu.

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than we do know. For many reasons its lack of designation as a RAMSAR site bewildered me during my discussion with colleagues at Kushiro Shitsugen National Park in 1996. Zapata is a great

desen-es the attention of all people interested in its preservation.

Probably the most widespread information in the world about Zapata Swamp is through a description of the 1962 battle

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