

GENERAL ASPECTS OF CONSERVATION IN CUBA

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The approach to conservation in our country is "subjective" rather than "objective." There are several reasons for this, some of which will be outlined here. It is not my purpose, however, to analyze or judge conservation attitudes in Cuba from the past century through the present. I will consider only the more recent period, based mainly on my field experience over the last five decades. As a zoologist, my main field deals with vertebrates, although I have also some experience with insects. However, when dealing with conservation issues, we must think equally of plants and animals, and thereby we must include the participation of both botanists and zoologists.

The direct and indirect effects of human activities are mainly responsible for the changes that may occur among populations of plants and animals throughout historical times. But we need to analyze "both sides of the coin" as to what effects human activities have had on conservation in our country. Again, this analysis is based on rather "subjective" thinking, mainly because of the lack of statistics from rigorous surveys and studies of population dynamics. On one side of the coin are the negative effects of human activities, such as deforestation; conversion of natural habitats to citrus plantations, cane fields, and pastures; mining operations; flooding habitats by construction of dams; development of causeways connecting the mainland with the cays; the introduction of exotic plants and animals (especially monkeys in some cays); and the so-called "Special Period" of economic hardships over the last 5 years that has forced our country people to capture protected birds and mammals (e.g., especially hutías *Capromys* spp.) for food.

With regard to the construction of dams, we have no data on the negative effects of the habitats lost to the reservoirs. Certainly many land birds have been affected by the reduction of their habitat. Some species which previously did not occur in rural or urban habitats, including large cities, have recently become common residents in such sites; e.g., the endemic Cuban Blackbird (*Dives atrovirens*), Tawny-shouldered Blackbird (*Agelaius humeralis*), and Antillean Palm Swift (*Tachornis phoenicobia*). Even small flocks of Cuban Parrots (*Amazona leucocephala*) are dwelling in residential and embassy areas where gardens and trees are found. Whether these birds represent escapees from captivity, or took up residence from wild populations, we do not know.

We should be greatly concerned with the current rush to build causeways between cays and from the cays to the main island of Cuba. These corridors will allow easy invasions of exotic forms. Certain local endemic races of birds and reptiles are doomed to disappear, either by interacting with new invaders from mainland Cuba, or by disturbance or reduction

of their habitats, caused by the construction of new tourist facilities.

Still there is another, positive face of the coin, demonstrated in the increasing number of professional forest guards, along with the creation of sanctuaries, reserves, national parks, forestry parks, and gardens, and our extensive reforestation efforts (including planting of fruit trees). In that reforestation program, thousands, perhaps millions, of trees have been planted in Cuba.

Although considerable terrestrial habitat has been lost to reservoirs, it is important to point out that several populations of waterfowl have profited from these developments and some species have greatly increased their populations. For example, in less than four years after the construction of the Presa Muñoz (Camagüey province), over three thousand pairs of Tropical Cormorants (*Phalacrocorax brasilianus*) nest around the dam, more than 30 Ospreys (*Pandion haliaetus carolinensis*) winter there, and a minimum of 56 Snail Kites (*Rothramus sociabilis*) were observed in less than an hour's survey by motor boat. At least two nestings of the North American race of the Osprey (*P. h. carolinensis*) have been reported at dams (previously the local race, *ridgwayi*, was the only form nesting in our territory, and there only in cays).

With the increase of citrus and rice plantations, the previously extremely rare Short-eared Owl (*Asio flammeus*) has shown a spectacular demographic explosion in less than 12 years; it has since been reported from essentially every province, including territories not thought suitable, such as the Peninsula de Guanahacabibes. Only about 30 years ago, the same phenomenon occurred with the Fulvous Whistling-Duck (*Dendrocygna bicolor*) in rice fields and also the White-cheeked Pintail (*Anas bahamensis*). Several species of migratory ducks have also greatly increased their numbers as winter visitors. Other species using swamp and saw grass habitats have expanded their territories. For example, the endemic Cuban Red-winged Blackbird (*Agelaius assimilis*), formerly found only in the Ciénaga de Zapata, now occurs as far as some rice fields in the province of Ciego de Avila (Yaroddy Rodríguez, pers. comm.). The Northern Harrier (*Circus cyaneus*), formerly a rather rare winter visitor, is now common in some rice fields, as is the Barn Owl (*Tyto alba*).

Thus, even in our current period of economic hardships, some headway is being made in our efforts to conserve our wildlife.

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