



THE GIANT GREBES OF ATITLÁN

A CHRONICLE OF EXTINCTION

by Anne LaBastille



My days as a graduate student at Cornell University were far from happy. Despite the University's exemplary traditions of freedom for women, flexibility of studies, and excellence of curricula, I was miserable. There were so many required courses that seemed incomprehensible or useless to me at the time. Exams were frequent and hard. My searches through the literature in libraries often became Byzantine and boring. Winter weather was devastatingly dreary. And I was as white as an egret. Worst of all, the dormitory room where I lived was cramped and overheated. It looked out at a brick wall, and the radiator clanked all night.

Before you label me a discontented, unappreciative student, consider where I was coming from. For the previous two years, from 1965 to 1967, I had lived beside Lake Atitlán, Guatemala—one of the loveliest lakes on Earth—and studied the rare giant grebe, a species found nowhere else. Mornings, I would speed across the crystal sapphire lake surface in a small motorboat, free as the birds I'd come to observe. Afternoons, I would wander through smoky Mayan villages, endlessly charmed by the bright colors of the houses, textiles, poinsettias, and fruits, and also by the liveliness of the outdoor market. Evenings, I would write up my field notes, sitting contentedly beside a crackling fireplace in a small ranchito. Every day was like spring—warm, sunny, and dry. And I was as brown as a limpkin.

The Maya and *ladinos* alike were soft-spoken and hospitable to this odd *gringa* so intent on the giant grebes, or "pocs" as they were called by the local people. My mission of studying and trying to save these rare, endemic grebes would eventually earn me the affectionate nickname of "Mama Poc" (Mother of the Grebes).

But I had left all that to return to the university and complete my doctorate. Just about the only place I felt truly accepted at Cornell was at the Laboratory of Ornithology. There I found other students who cared about birds and would converse enthusiastically with me about the finer points of bird study. I could watch the wild waterfowl swim past on the pond just beyond the plate glass windows. Bill Dilger, one of the professors on my graduate committee, worked at the Lab. His wise counsel saved me more than once from taking a precipitous flight out of graduate school.

Little did I realize while struggling to earn my doctorate that my fledgling conservation project in Guatemala would go on to span 24 years of my professional career. Nor did I ever guess that these flightless birds would crash from a stable, healthy population of over 200 individuals to extinction in such a remarkably short span of time.

As far as I know, I was the first wildlife ecologist to document in detail a species' agonizing plunge into oblivion, and to witness most of the factors—biological, geological, political, and social—that caused this tragedy. Many ecologists and ethologists, including Dian Fossey, Jane Goodall, and George Schaller, have worked with *endangered* species, or have recorded the *final* moments of an extinction. But few if any have charted the entire course of a species from a stable population to extinction. The fate of the giant grebe bears grim testimony to the fact that a species can be lost even while being studied closely by scientists who are working to save it, if local people and governments don't have the resources to help.

But let me go back to the beginning. After receiving a bachelor's degree in Conservation of Natural Resources from Cornell University, I joined my new husband in conducting wildlife tours to the Caribbean and Central America. We saw our first giant grebes on a trip to Guatemala in 1960. But we could not find any mention of the species, let alone a description or photograph, in any field guide. A check into the scientific literature, however, revealed that two famous ornithologists—Ludlow Griscom and Alexander Wetmore—had discovered, described, named, and censused these birds in 1929 and 1936, respectively. They called the species *Podilymbus gi-*



A lone giant grebe (far left) swims on the placid surface of Lake Atitlán, the only place in the world where this flightless species lived. Author Anne LaBastille (left) often waded through chest-high water and dense reeds to study the grebes.

gas. Griscorn said that although the giant grebe was related to the common pied-billed grebe (*Podilymbus podiceps*), the species was much larger and darker, and it was also unable to fly. In their opinion it was definitely a distinct species.

The idea dawned on me that someday I would return to Lake Atitlán, without a tour group in tow, and I would census, photograph, and write about this little-known water bird. My divorce later opened up the opportunity for me. I returned to Guatemala for a couple of months, taking up lodging in the tiny tourist town of Panajachel. It was the only village connected by paved road to the Pan American highway on the entire 75-mile shoreline, and had five or six small hotels and pensions. Around the lake at that time there were 28 private vacation “chalets,” 12 Mayan villages, and a population of 38,000 people.

I cautiously edged my way around that incredible, volcano-rimmed lake each day in a leaky old boat with a cranky motor. I quickly gained a great respect for the 1,200-foot-deep body of water where every afternoon winds whipped the tranquil surface into a jumble of treacherous waves.

As part of my field work, I counted every giant grebe on Lake Atitlán and crawled laboriously through dense reeds to search for their nests. The reeds were the only place where the pocs could court, nest, roost, and hide from danger. And they also provided the principal habitat for other aquatic life, such as freshwater crabs, tiny fish, insects, and amphibians. I made my censuses on nights with a full moon when all was calm, using the taped territorial call of a male grebe. The call was invariably answered by other males.

At the end of the first month, though, I sensed that something was wrong. I'd counted only 80 pocs—far fewer than the numbers I had counted in previous censuses. I had a hunch that hunting or poaching by the Maya had caused the decline. To confirm my suspicions, I stayed another month. But I found that the Maya rarely ate grebes, because the birds were too wary to kill with simple slingshots and machetes. (Few Guatemalans are allowed to own firearms.)

Next, I hypothesized that the cutting down of reed and cattail beds by the Maya might be the limiting factor. They weave the reeds into sleeping mats and little seats for their huts. But lakeside residents had been harvesting these plants for centuries to make their simple furniture. Why should the reed cutting cause a problem now if it never had before?

It took me another month to find the culprit. I learned that the local offices of Pan American Airlines and the Panajachel tourist board had introduced 2,000 largemouth bass fingerlings into Lake Atitlán five years earlier, hoping to

develop a new sport fishery. According to their plans, fishermen would fly to Guatemala on Pan Am and stay in Panajachel's hotels. No one was required to make environmental impact statements in those days, and scarcely anyone thought about ecology, or even knew what it meant.

Largemouth bass are tremendous carnivores, preying on everything from small fish, crabs, frogs, and water snakes to waterfowl chicks and swallows. They found plenty to eat in Lake Atitlán and reached record growth rates within a short time. The indigenous fish and crabs were soon decimated by the bass. Of an estimated 12 to 14 small native fish species found at the lake before the bass were introduced, only three or four remained five years later, plus four other exotic species. I saw bass weighing 12 to 14 pounds pulled from Lake Atitlán, and heard of some that ran over 20 pounds. The natural aquatic ecosystem of the lake had been turned upside down.

Local anglers and crabmen suddenly found that their catches, on which they relied for protein in their diets, had dropped drastically. Since giant grebes depended on the same food source as the local people, the birds were probably succumbing to starvation. And I surmised that the bass might also be eating the grebes' chicks.

Neither the indigenous people nor the giant grebes benefited from the introduction of largemouth bass to Lake Atitlán. A Maya at that time only earned about \$200 per year and hence could not afford to buy expensive tackle or bait to catch the big bass. Furthermore, since most Maya can't swim, skin diving and spearfishing to catch bass was not an option for them as it was for wealthy sportsmen. The jaunty grebes, no larger than wood ducks, could not capture or swallow the large, finny bass. Thus this one unwise introduction had a far-reaching impact on the people and wildlife of the area. There was no way to eliminate the bass from such an enormous lake.

By now, I was determined to help save the pocs. I lengthened my visit to six months and increased my daily observations. Breeding season began. Male pocs gave out long, penetrating, braying calls to defend their territories, and shorter, sweeter, chuckling songs to communicate with females, which usually stayed invisible in the dense reeds. I recorded these vocalizations and named them the “gulping cow” territorial call and the “hen-flicker” mating call.

Each pair built a 100-pound floating nest of sodden reeds and laid a clutch of about five eggs. Since the grebe nests were always hidden in the thickest vegetation, I managed to find only 22 of them during my four years of field work. Some of my more difficult nest searches led to sunstroke, strange skin rashes, and amoebic dysentery.

After the incubation period, the cunning little black-and-white striped chicks would appear, riding on their parents' backs or trailing behind them, bobbing like ping-pong balls. I recorded a new vocalization, which led me to understand why the Maya call the giant grebes pocs. It was the soft, low *poc-poc-poc* of a parent bird calling to its chicks.

I finally left Guatemala in June and returned to Upstate New York to live in my log cabin in the Adirondacks. Yet the plight of the giant grebes stayed with me. I pondered what to do. There were two Guatemalan laws that might help, but few people knew of them and there were no game wardens to enforce them in Guatemala. One law protected all water birds at Lake Atitlán, and the other declared the lake's surface and watershed a National Park. I felt that if I could only get some grant money, I could set up a conservation campaign in the Lake Atitlán area and work to make sure that the laws were enforced.

I received a small grant from World Wildlife Fund International, and more grants later from the Smithsonian Institution, International Council for Bird Preservation, National Geographic Society, and others. When I returned to Guatemala that fall, I asked the Ministry of Agriculture for matching funds. These went to pay a new part-time game warden, Edgar Bauer, and supply gas and oil for his boat. I called the program "Operation Protection Poc," and in the years that followed we worked actively to enforce the local wildlife laws, educate the public on the need for conservation, manage the lake habitat, and establish a refuge for the giant grebes.

The World Wildlife Fund generously provided two patrol boats over the 14 years that Edgar was involved in Operation Protection Poc. And the Guatemalan government helped build the grebe



refuge and paid workmen. Also, to my delight, my assistant and I were appointed as honorary wardens. As far as I know, at that time (1966) I was the only female conservation officer in all of North, Central, or South America.

During 1966 and 1967 Operation Protection Poc put up conservation posters and gave lectures in all the villages and schools around the lake. We met with reed cutters and hammered out an agreement which protected half of every reed and cattail bed each year. In places where reed harvesting was allowed, the cutters had to leave a buffer zone of uncut vegetation around any nests. This became a presidential decree in February 1968.

The Guatemalan Postal Service printed a handsome first-day cover and air mail stamp of the giant grebes. In two-and-a-half years, this issue grossed \$123,000, though none of it went into our campaign to save the grebes. The birds also appeared as motifs in local arts and crafts, enabling the Maya to earn money from the grebes.

By June 1968, we had completed a 3-acre refuge with a visitor's center and dock near Santiago Atitlán.

The author (above) prepares to release a giant grebe into the refuge set up by Operation Protection Poc. A Guatemalan presidential decree in 1968 required Lake Atitlán reed cutters (left) to leave a buffer of uncut vegetation around grebe nests.



ANNE LABASTILLE (2)



Bass were removed from the refuge, 6,000 small native fishes reintroduced, and two pairs of giant grebes set inside. At the inauguration, our small sanctuary was officially declared Guatemala's first national wildlife refuge. And best of all, the grebes had reversed their downward trend. They continued to increase until 1975, reaching a high of 232.

Although I was registered as a graduate student at Cornell during this period, I spent all my time at Lake Atitlán doing field work. But at last the day came when I would have to return to class or abandon my plans for a degree.

That's when my world of excitement at Lake Atitlán came to an end. I returned to Cornell University, and while

I was there a series of sinister events took place in Guatemala.

In 1969, Edgar Bauer, my faithful colleague, warned me of plans for a hydroelectric plant at Atitlán. The lake would be used as a reservoir, and the level would be dropped 20 to 40 feet in 10 years. And three dirty rivers would be diverted into the lake water. I was sure that the fluctuation in the water level and the pollution would destroy most of the aquatic life and the crystal-clear quality of the lake water. Fortunately, a vigorous letter-writing campaign by world-famous conservationists to the president of Guatemala put an end to the project.

Then in 1976 a massive earthquake struck,

killing 25,000 Guatemalans and opening fissures in the bottom of Lake Atitlán. Slowly, the water level began dropping—this time from geological forces, not socioeconomic ones. Thirteen years later, the lake was down 19 feet. The seepage finally slowed by 1990. But our refuge dried up and was planted to corn and beans long before that, and Edgar had released the captive pocs and their chicks.

I had meanwhile attained my Ph.D., taught for two years at Cornell, and moved on to become an independent ecological consultant, author, and lecturer. I visited Lake Atitlán annually without fail and worked with Edgar to re-census grebes, measure reeds, count chalets, and monitor water quality.

By 1980, I could see that the lake was changing—fast. The human population had almost doubled. And real estate development had arrived. I counted 350 chalets, and more were under construction. Many owners had pulled out shoreline vegetation to construct beaches, docks, walls, and terraces. The presidential decree for Maya reed cutters did not apply to wealthy waterfront property owners. Moreover, a three-tower, 16-story condominium loomed near Panajachel. It was totally out of keeping with the rustic landscape and had no sewage treatment plant. Indeed, there was no regional sewage plan at all, much less a land-use plan to cluster growth centers and protect agricultural or wild lands. The lake's water was still cobalt blue, but in the big bay of Santiago Atitlán and close to the villages, it was fast becoming murky with soapy laundry water and leaching "night soil." And the giant grebe population had dropped to only about 100 birds.

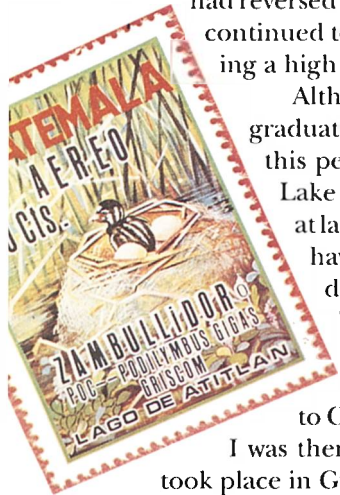
That was the last time I saw Edgar. His careful reports and friendly letters of the previous 14 years ceased. The press was full of the local war between the military and guerrillas. In May 1982 someone sent me a news clipping saying Edgar had been murdered by unidentified assailants on his coffee farm late one night. Thus I lost my best friend in Guatemala, and Operation Protection Poc came to an end.

The civil strife in Guatemala raged on, and I was unable to go there for four years. The Guatemalan military took over the visitor center at the refuge and installed machine guns and a pit prison for a time. Our little sanctuary, built with so much love and cooperation, was lost. But then, no one cares about the environment during a war.

Under the aegis of the U.S. Fish and Wildlife Service and the Guatemalan government, I joined other biologists between 1984 and 1987 to check on the giant grebes again. We hoped to try a captive breeding program. Only 50 to 55 birds remained. Reed habitat had diminished by 80



Thanks to publicity generated by Operation Protection Poc, giant grebes appeared as motifs on local crafts and on Guatemalan postage stamps (left). Project game warden Edgar Bauer (above center) directs a crew of local workmen as they plant reeds along the lakeshore to create more grebe habitat.





percent, depriving the lake of its principal filtering mechanism and waterbirds of their homes. It was too late even for the captive breeding experiment. When only 20 pocs were left, biologist Laurie Hunter declared the species extinct. Laurie's analysis had shown that some of the remaining grebes could fly, yet were large and brownish. We would never know for sure whether the giant grebes had been overwhelmed by the more adaptable pied-billed grebes, had hybridized with them, or had simply died off from natural causes.

I returned to Guatemala in April 1991 and made one last thorough survey of Lake Atitlán. I counted 501 weekend chalets, many of them perched on slopes where pesticides and fertilizers from their gardens ran freely into the lake. Raw sewage flowed in from at least four towns, bands of bright green algae ringed the shore, and every morning hundreds of local women washed their clothing in the once pristine lake water. I had counted only four pocs on a survey two years earlier. This time there were none.

I would have returned to the United States in a complete depression if not for the Guatemalan government's renewed interest in Lake Atitlán. I was invited to present a forum on the conservation and sustainable development of the lake. The Governor, the Mayor of Panajachel, and other prominent Guatemalans attended, and most were enthusiastic about saving Atitlán.

Unfortunately, their concern had come too late to save the giant grebes. With sorrow, I realized that the grebes had been both biological indicators of the doom facing Atitlán, and martyrs to the country's fledgling conservation movement. They had alerted everyone to the growing ecological ruin of the lake, but the news had come too late to help them. ■

Anne LaBastille is an international advocate of wildlife conservation and the author of the best-seller Woodswoman, and its sequel, Beyond Black Bear Lake. She relates the full story of her efforts to save the giant grebe in her latest book, Mama Poc, published in 1990 by W.W. Norton & Company, Inc.