

Avian Riches in Alvarado

by Brad A. Andres¹ and Octavio G. Cruz-Carretero²

¹15651 Berlin Turnpike,
Purcellville VA 20132
shorebirds@aol.com

BAA is a professional ornithologist who regularly birds as a hobby. He is currently the national coordinator of the U.S. Shorebird Conservation Plan.

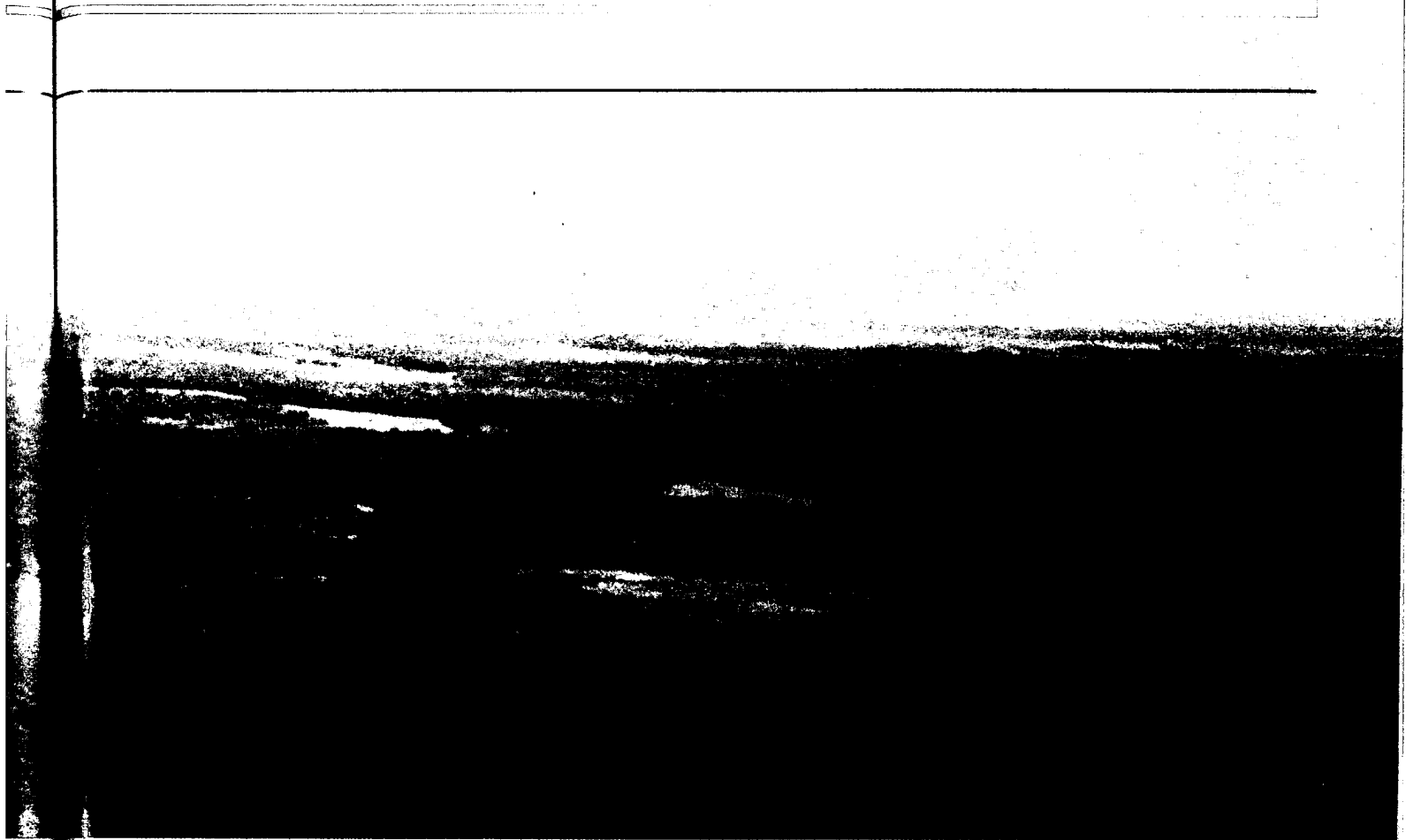
²Pronatura Veracruz
Apartado Postal 399
Xalapa Veracruz 91000
Mexico
aves_humedal@infosel.net.mx

OGC-C is a life-long resident of Veracruz and has always been interested in the region's birdlife. He is currently the director of Pronatura's Alvarado Wetlands project.

The tropics, to most birders, conjure up images of colorful birds flashing through lush rainforest canopies. Although often perceived as less spectacular than lowland rainforests, neotropical estuarine wetlands provide vital habitat for migratory and resident birds along the Atlantic and Pacific coasts. In Mexico alone, the coastline is perforated by 130 coastal wetland systems. The Alvarado Wetlands, located in the state of Veracruz, are one of the largest wetland ecosystems found along the Mexican Gulf Coast. Although Veracruz is now well-known to birders as an incredible hawk-watching site (see Clay and Pat Sutton's article in the June 1999 issue of *Birding*), the state also harbors vast wetlands that support many migrant and resident birds.

The Alvarado wetland system has been identified by the government of Mexico as one of the most significant coastal wetlands in the country, and it is one of Mexico's Important Bird Areas (IBAs) of global significance (known in Spanish as AICAs, for Areas de Importancia para la Conservación de las Aves).

The Alvarado wetland complex spans about 600,000 acres (about 280,000 hectares) and consists of large lagoons, mangrove forests, palm savannas, broadleaf evergreen forests, and seasonally-flooded grasslands. Whether from an airplane or on foot, the region bears a striking similarity to the Everglades of South Florida. The wetland forms a drainage basin for some of the main rivers in Veracruz (the Papaloapan, Limon,



Acula, and Blanco Rivers). Inhabiting the area are approximately 105,000 people who make a living primarily by raising cattle, growing sugar cane, or fishing. Fishing in Alvarado consists mainly of hand-set nets and rustic fish-farming—a technique where the mouth of a lagoon is blockaded with stakes, with the fish or shrimp stocked in and harvested from the artificial impoundment.

Over the past three years, biologists from Pronatura Veracruz have been studying the rich bird community of Alvarado. Pronatura is a Mexican national, non-profit organization whose mission is to conserve the flora, fauna, and natural ecosystems in harmony with the society. Pronatura operates numerous offices throughout the

country. A state office was established in 1990 in Veracruz—an obvious choice given that the state ranks third in Mexico for its number of bird species. Because of the outstanding value to natural resources—and to humans—the Alvarado Wetlands are among Pronatura Veracruz's main conservation focus-areas.

Birdlife and Habitats

Using a variety of methods, biologists from Pronatura Veracruz have discovered that the Alvarado Wet-

The Alvarado Wetlands comprise a mosaic of permanently and seasonally flooded habitats, along with patches of dry uplands.

Habitats consist of large lagoons, mangrove forests, palm savannas, broadleaf evergreen forests, and seasonally flooded grasslands.

Alvarado Wetlands, Veracruz, Mexico;

February 1999. © Brad Andres.

lands support 318 species of birds at some point during the year; this number represents about 30 percent of all bird species recorded in Mexico. Of these 318 species, 140 species (44%) are present throughout the year. Another 137 species (43%) are found during the winter months, and 41 species (12%) are observed only



The Alvarado Wetlands support tens of thousands of migrant and resident waterbirds, such as the immature Bare-throated Tiger-Heron, shown here. Besides funneling raptors south, coastal Veracruz is a corridor for migrant waterbirds that breed in North America. *Isla Contadora, Pearl Islands, Panama; 9 November 2002. © Christopher L. Wood.*

during spring or fall migration. The amount of blue depicted on the local topographic map explains why waterbirds are a conspicuous and dominant component of the Alvarado avifauna: The diversity of

wetland and surrounding upland habitats contributes to Alvarado's rich avian community.

Close to the coast, Alvarado's channels and lagoons are fringed by a dark-green curtain of man-

groves. These trees can tolerate saltwater and grow in areas that are inundated regularly by tides or irregularly by seasonal rains or storms. The forest canopy forms a cool, moist environment, which is a haven for mosquitoes and a boon for insectivorous birds. These distinctive wetland forests of Alvarado, like other places throughout the Caribbean, provide important wintering habitat for impressive numbers of migrant warblers. Our counting and mist-netting surveys indicate that Black-and-white Warblers, American Redstarts, Northern Waterthrushes, and male Hooded Warblers are particularly abundant in the mangrove forests. The striking chestnut-headed race of the resident Yellow Warbler is mainly restricted to mangroves and is appropriately named the Mangrove Warbler. Boating through the watery maze of mangroves is an exciting way to encounter striking tropical raptors, such as Black-collared Hawk, Crane Hawk, and Great Black-Hawk. The arching prop roots of advancing red mangroves serve as perch sites for raucous Ringed Kingfishers and provide protective cover for elusive Sungrebes.

Inland from the mangrove fringe, freshwater lagoons support tens of thousands of aquatic birds. The shallowest lagoons support the greatest numbers and species of waterbirds. American White Pelicans, Great Egrets, White Ibises, and Blue-winged Teal from the north share lagoon habitats with resident Least Grebes, Yellow-crowned Night-Herons, and Black-bellied Whistling-Ducks. On rare occasions, we have glimpsed the secretive Agami Heron among

snags of flooded, wooded lagoons. From surrounding cattails, calls of migrant Soras (whose ability to migrate long distances constantly astounds us) mingle with the vocalizations of resident Ruddy Crakes and Northern Jacanas. Ospreys from British Columbia share nearby perches with local Lesser Yellow-headed Vultures and Bare-throated Tiger-Herons. On one excursion, we tallied 12 of these tiger-herons along the Rio Blanco. Rivaling its well-known corridor for migrant raptors, the coast of Veracruz is also a major receptacle for temperate-breeding waterbirds. Band recoveries of American White Pelicans in Alvarado, for example, can be traced to every northern state or province in which the species breeds.

Grasslands are another dominant feature of the Alvarado landscape. Although many of these grasslands are used for



Pronatura Veracruz uses the tools of monitoring, research, and education to achieve conservation in the Alvarado Wetlands. *Alvarado Wetlands, Veracruz, Mexico; February 1999. © Brad Andres.*

A Visit to Alvarado

Clay and Patricia Sutton, in their June 1999 *Birding* article (pp. 229–236), described fall tours to Veracruz that primarily focus on hawk-watching but that also include visits to Alvarado and other wetlands. Aside from the multitude of hawks, there are numerous migrant waterbirds, landbirds, and shorebirds to be found during this time. A eight-day trip that we led in central Veracruz during mid-October of 2002 produced 246 species. Fall trips are offered directly by Pronatura and by other birding tour companies. For information on the current season's tours offered directly by Pronatura, please contact <pvecotours@infosel.net.mx>. Pronatura hopes to increase winter season tourism services in the coming years. If you are interested in another tour company, we encourage you to follow the Suttons' suggestion of using tour organizations that contribute to the conservation work of Pronatura Veracruz. Most companies will explicitly mention whether they use Pronatura guides or donate to Pronatura's conservation programs (e.g., see <www.jaegertours.net/vacruz3.htm>).

As with most conservation organizations, Pronatura Veracruz is constantly searching for ways to support its conservation programs. If you would like more information on the Alvarado Wetlands project of Pronatura Veracruz or would like to make a donation specifically to support work in Alvarado, please contact either of the authors. Funds are needed for basic

materials to support research, monitoring, outreach, and education projects.



Many birders think of lowland rainforests as the epitome of the tropical experience. But grasslands, wetlands, and other habitats contribute much to tropical diversity, as well. The Fork-tailed Flycatcher, an austral migrant and widespread breeder in much of the New World tropics, can be found in grassland habitats at Alvarado and elsewhere in Veracruz. Cardel, Veracruz, Mexico; October 2002. © Christopher L. Wood.

cattle grazing, they provide habitat for numerous bird species. Here, migrants from both the north—such as Savannah Sparrow and Loggerhead Shrike— and the

south—such as Grassland Yellow-Finch and Fork-tailed Flycatcher—share barbed-wire perches. Grassland birds are ever vigilant for marauding Aplomado

Falcons; these magnificent raptors are frequently observed in Alvarado's grasslands. Perhaps surprisingly, heavily-grazed grasslands are the favored nesting habitat of that bustard-like shorebird, the Double-striped Thick-knee. Seasonally-flooded pastures provide stopover habitat for arctic-nesting shorebirds such as Pectoral Sandpiper, Least Sandpiper, and Long-billed Dowitcher. A careful search of isolated, vegetated ponds can reveal Pinnated Bittern, Masked Duck, Limpkin, and Purple Gallinule. Invasion of cabbage palms into the grasslands provides nest sites for Band-backed Wrens, foraging habitat for migrant Yellow-throated Warblers, song posts for resident Boat-billed Flycatchers, and perch sites for Laughing Falcons, which are eagerly waiting to pounce on lizards or snakes. To the undiscerning eye, the landscape image could easily be one of the interior of the Florida Everglades; to the birder, however, the avifauna is incomparably richer.

Islands of broadleaf, evergreen shrubs are interspersed throughout the palm savannas and provide habitat for migrant and resident flycatchers. Centuries of human habitation in these relatively dry uplands have fabricated a landscape of scattered tree-islands, pastures, and cultivated patches of fruit trees and vegetables. Bird diversity in this landscape is relatively high. Migrant Yellow-breasted Chats, White-eyed Vireos, and Gray Catbirds call from the cool recesses of the tree-islands. Resident Buff-bellied Hummingbirds and Altamira Orioles attack the nectaries of showy flowers, while Common Tody-Flycatchers

quietly move through the depths. Where trees grow denser and taller along stream courses, Black-headed Trogons perch statuesque among the limbs, Red-billed Pigeons feed on treetop fruits, and a simple whistle is virtually guaranteed to elicit a response from a Ferruginous Pygmy-Owl. The moist forest floor of a stream-side corridor is perfect foraging habitat for migrant Kentucky Warblers, Worm-eating Warblers, and Ovenbirds.

Challenges

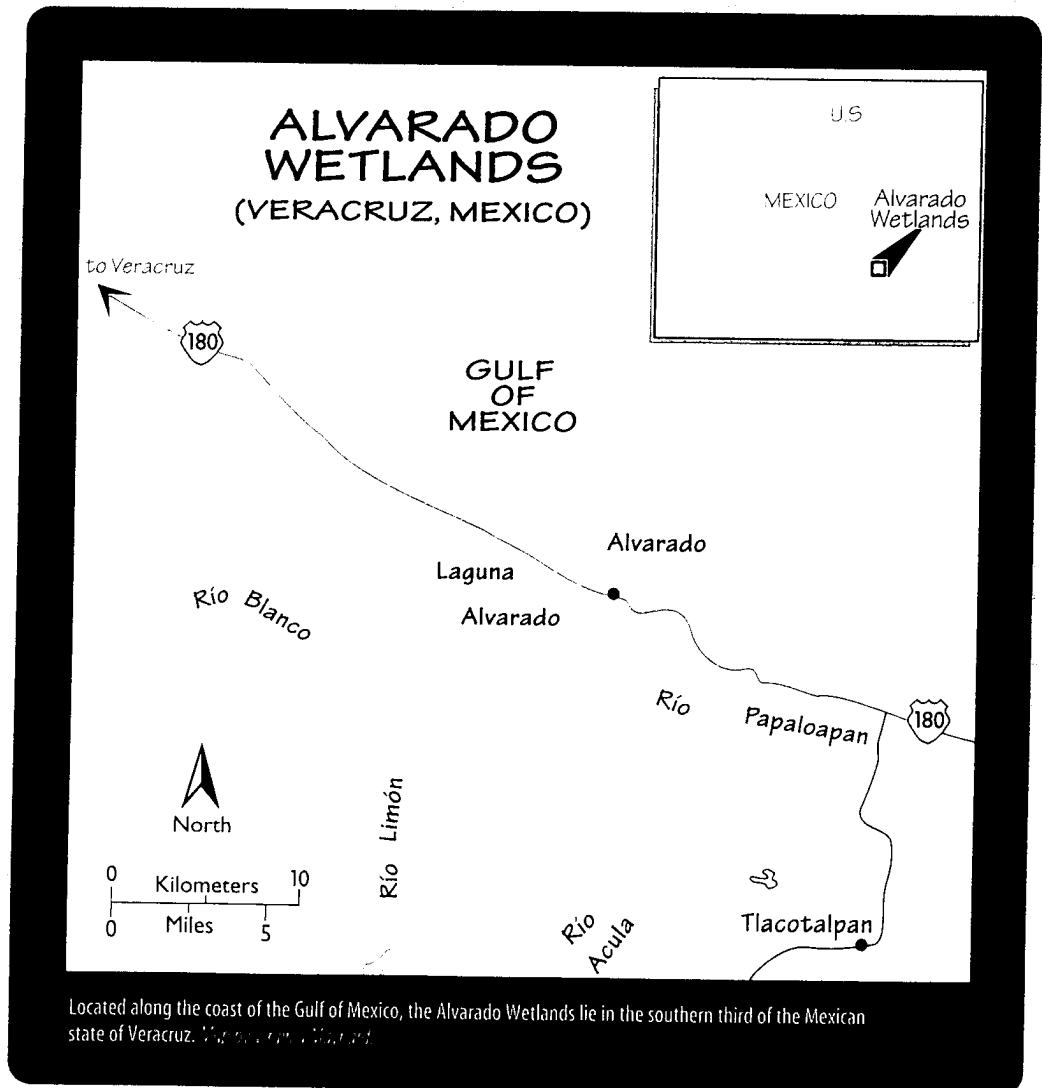
The Alvarado Wetlands, unfortunately, face a multitude of conservation challenges. Although people have inhabited Veracruz for thousands of years, the human population has been swelling in recent years. As a result, greater resource consumption is taxing the resiliency of Alvarado's natural environments. An expanding sugar cane industry continues to convert natural wetlands along Alvarado's western and southern flanks. Besides the loss of habitat, discharge from cane-processing factories contaminates waterways such as the Papaloapan and Acula Rivers.

Water drives the ecosystems of Alvarado. Populations of aquatic birds—not to mention humans—depend on animals and plants that require healthy marine, brackish, and

freshwater environments. Many of the common bird species found here provide sustenance for Alvarado's human inhabitants. At least 52 bird species—including shorebirds, pelicans, herons, gulls, terns, and frigatebirds—are on the daily menu. Increased harvest of mangrove trees is troublesome. Mangrove wood is used as fuel in local homes or is sold in surrounding towns. Cutting of mangroves not only removes habitat for migrant and resident birds but also destabilizes channel banks, increases siltation, and eliminates

crucial nursery grounds for fish. Fish are the most important economic and subsistence resource for Alvarado's people. Habitat loss, coupled with an increasing harvest, has caused researchers to question whether the region's fisheries will be able to keep pace with the needs of Alvarado's human and animal populations. In upland landscapes, continued growth of the cattle industry has applied greater grazing pressure on grasslands and has decreased the number and size of forest patches.

continued on page 383



continued from page 381

Forest loss will have the most dramatic negative effect on resident bird species.

After the initial phase of documenting the Alvarado Wetlands avifauna, Pronatura Veracruz is now working with Alvarado's communities, university scientists, and the government to develop a

sustainable management plan for the region. An effective conservation strategy for Alvarado will require the cooperation and commitment of all stakeholders. Pronatura Veracruz hopes to work with these groups to ensure that the avian riches of Alvarado will be the next generation's inheritance.

English and scientific names of birds that are mentioned in the text but that are not found in the ABA Area.

ENGLISH NAME	SCIENTIFIC NAME
Pinnated Bittern	<i>Botaurus pinnatus</i>
Bare-throated Tiger-Heron	<i>Tigrisoma mexicanum</i>
Agami Heron	<i>Agami agami</i>
Lesser Yellow-headed Vulture	<i>Cathartes burrovianus</i>
Black-collared Hawk	<i>Busarellus nigricollis</i>
Great Black-Hawk	<i>Buteogallus urubitinga</i>
Laughing Falcon	<i>Herpetotheres cachinnans</i>
Ruddy Crake	<i>Laterallus ruber</i>
Sungrebe	<i>Heliornis fulica</i>
Black-headed Trogon	<i>Trogon melanocephalus</i>
Common Tody-Flycatcher	<i>Todirostrum cinereum</i>
Boat-billed Flycatcher	<i>Megarhynchus pitangua</i>
Band-backed Wren	<i>Campylorhynchus zonatus</i>
Mangrove (Yellow) Warbler	<i>Dendroica petechia erithachorides</i>
Grassland Yellow-Finch	<i>Sicalis luteola</i>

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