



FLAAR
MESOAMÉRICA

PELICAN PARADISE

Pelecanus occidentalis



Amatique Bay
Canyon Rio Dulce
Rio Dulce
El Golfete
Bird Island

NICHOLAS **HELLMUTH**

LIVINGSTON

Birds



PELICAN PARADISE



JUNE 2020

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MUNICIPALIDAD DE
Livingston

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Pelecanus occidentalis

Photograph by: David Arrivillaga, FLAAR Mesoamerica. March, 2020. Livingston, Guatemala. Sony A9, Mark II. Lens Sony FE 200-600mm F5.6-6.3 G OSS Settings: 1/2500 sec; f/5.6; ISO 2500

COVER PHOTOGRAPHY No. 2

Pelecanus occidentalis

Photograph by: David Arrivillaga, FLAAR Mesoamerica. March, 2020. Livingston, Guatemala. Sony A9, Mark II. Lens Sony FE 200-600mm F5.6-6.3 G OSS Settings: 1/1250 sec; f/6.3; ISO 3200

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IF YOU ENJOY BEING SURROUNDED BY **FRIENDLY PELICANS, COME TO LIVINGSTON**

Happy friendly pelicans are flying all around you. Other restful pelicans are floating on the surface of the water all around you as your boat shuttle brings you to the town of Livingston (Departamento of Izabal, the Caribbean side of Guatemala). You can probably see hundreds and hundreds of pelicans at any one time.



Pelecanus occidentalis.

Photograph by David Arrivillaga. FLAAR Mesoamerica. Mar. 10, 2020. 10:39 AM.
Livingston Guatemala. Camara: Sony A9, Mark II. Lens: Sony FE 200-600mm
F5.6-6.3 G OSS. Settings: 1/1000 sec; f/8; ISO 3200

We have found pelicans in several other lakes around Guatemala during our research years of field trips to find and photograph waterbirds in the rivers, lakes, and swamps of Guatemala:

- Lake Atitlan
- Lake Peten Itza
- Lake Yaxha
- Lake Petexbatun: the wetlands lagoons, and rivers around
- Monterrico (facing the Pacific ocean).
- Rio la Pasion,
- Rio San Pedro,
- Rio Ixtinto (at one end of Lake Yaxha),
- Arroyo Petexbatun (from Sayaxche to Lake Petexbatun).

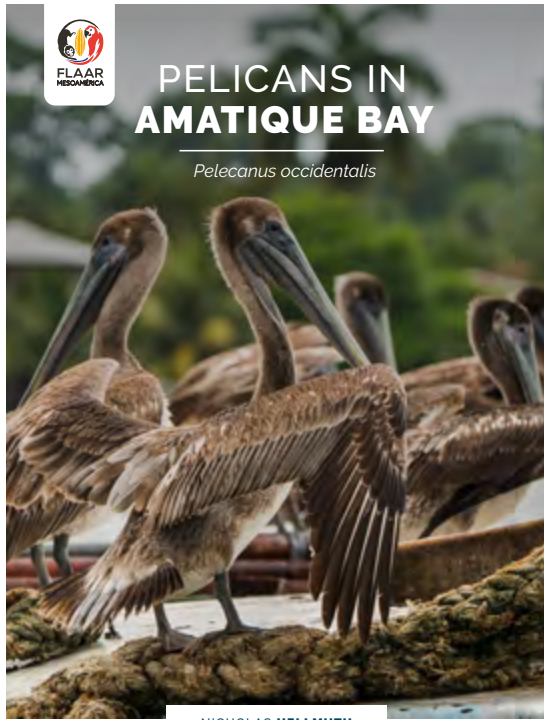
There are so many pelicans around Livingston that we are preparing 5 reports. The first is the one you are reading now: a general introduction. Then we will have four volumes of photos, like a photo database, a photo archive, on pelicans in four different areas of the Municipio de Livingston. These volumes will evolve as we find even more pelicans at the west end of El Golfete and east end of Lake Izabal (near the highway bridge crossing into the town of Rio Dulce). Our first two field trips (Feb. and March 2020) were to the eastern sector of the Municipio de Livingston.



Pelecanus occidentalis.

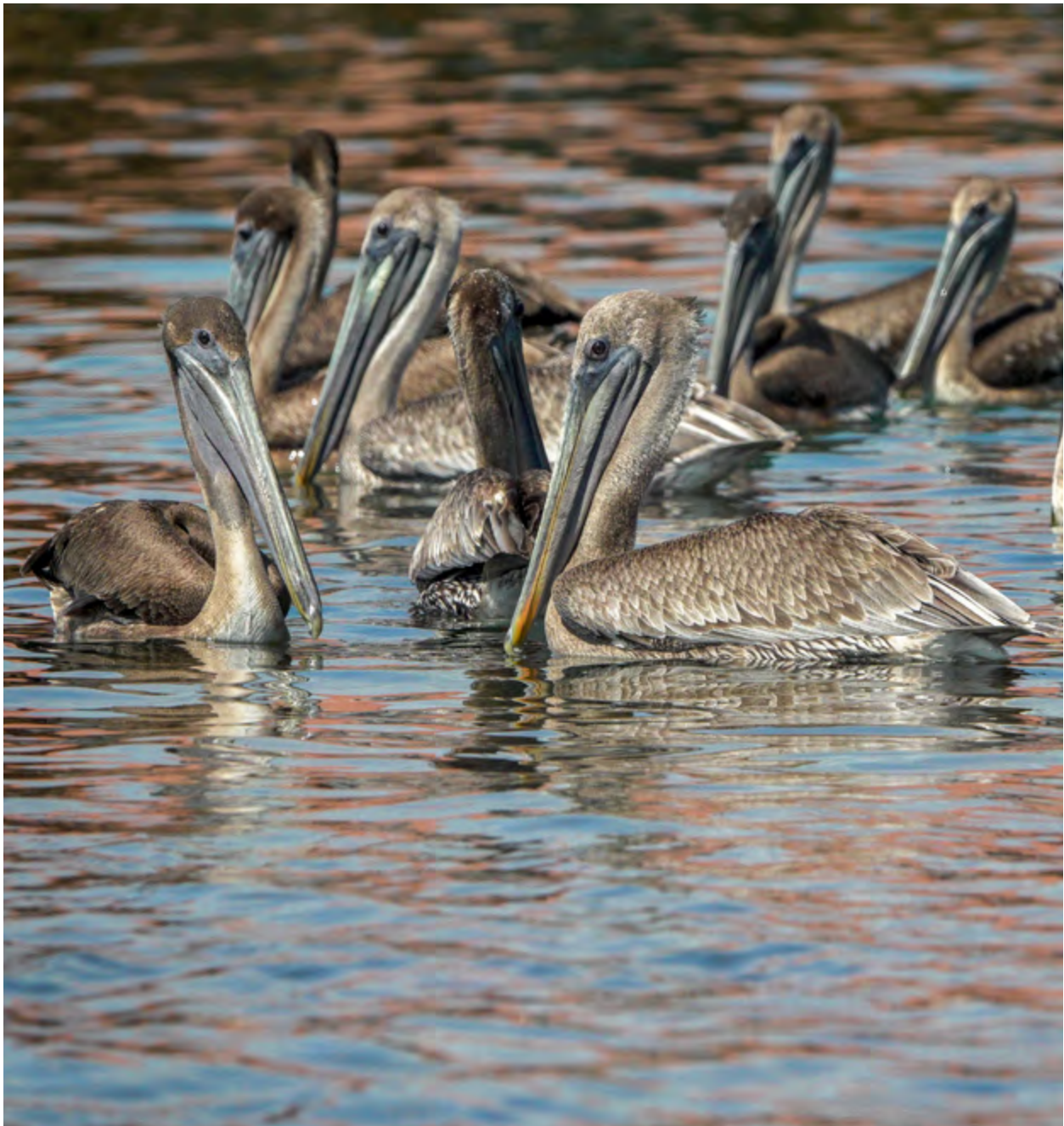
Photograph by David Arrivillaga. FLAAR Mesoamerica. Mar. 10, 2020. 10: 44 AM. Livingston Izabal. Camara: Sony A9, Mark II. Lens: Sony FE 200-600mm F5,6-6.3 G OSS. Settings: 1/1000 sec; f/8; ISO 3200

FUTURE PUBLICATIONS OF PELICANS



If you wish more FLAAR reports on fauna of Guatemala,
visit our: www.maya-ethnozology.org.

Then we will have four volumes of photos (the previous page), like a photo database, a photo archive, on pelicans in four different areas of the Municipio de Livingston. These volumes will evolve as we find even more pelicans at the west end of El Golfete and east end of Lake Izabal (near the highway bridge crossing into the town of Rio Dulce). Our first two field trips (Feb. and March 2020) were to the eastern sector of the Municipio de Livingston.



Pelecanus occidentalis.

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica. Livingston, Izabal. Mar. 10 2020. 10:39 AM.
Camara: Sony RX10 IV. Settings: 1/2500 sec; f/4.0; ISO 500



Pelecanus occidentalis.

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica, Mar. 10, 2020. 10: 48 AM. Livingston Izabal. Camera: Canon 1D X Mark II. Lens: EF 300mm f/2.8L IS II USM. Settings: 1/1000 sec; f/8; ISO 3200

TWO SPECIES OF PELICANS CAN BE FOUND INLAND FROM **THE OCEAN COASTS OF GUATEMALA**

We have found pelicans in several other lakes around Guatemala during our research years of field trips to find and photograph waterbirds in the rivers, lakes, and swamps of Guatemala:

- American White Pelican,
Pelecanus erythrorhynchos
- Brown Pelican,
Pelecanus occidentalis

Although I am not an ornithologist, I estimate that pelicans in Guatemala prefer lakes and lagoons, and rivers if near lakes and lagoons. But I would not expect to find pelicans very often along rivers that are not near lakes or lagoons.

Yes, pelicans do prefer to be in lakes, lagoons, and rivers near the ocean (Amatique Bay, Canyon Rio Dulce, Manchón Guamuchal, Canal de Chiquimulilla, but you can also see them far far far from salt water and even far far far from brackish water, at Lake Yaxha (Parque Nacional Yaxha Nakum Naranjo). To help ornithologists and bird watchers plan their future trips, I show here a quick tabulation of where you can find each of the two species of pelicans. So far, in Izabal, the majority of pelicans during March 2020 were the brown pelicans.



WHERE YOU CAN FIND EACH OF THE TWO SPECIES OF PELICANS

What river, lake, wetlands in Guatemala Where you find pelicans	<i>Pelecanus occidentalis</i> , brown pelican	<i>Pelecanus erythrorhynchos</i> White pelican	Nicholas Hellmuth personal comments
Amatique Bay, Bahía de Amatique: Playas de Livingston y Puerto Barrios	All year	From November to March	So far, in Izabal, the majority of pelicans during March 2020 were the brown pelicans.
Reserva de Vida Silvestre, Punta de Manabique Estero Lagarto Bahía La Graciosa			
Canyon Río Dulce, Cañón de Río Dulce			
El Golfete			
Río Dulce			
Lake Izabal, Lago de Izabal	Some times of the year		
Bocas de Polochic	Eisermann		Lack info on white
Lake Yaxha	Hellmuth; Eisermann		
Lake Peten Itza	Eisermann		Need to check 12 months of photography
Lake Lachoa (Laguna Lachuá), Río Icbolay, also spelled Ixbolay.			Lack info on white
Reserva de Usos Múltiples, Cuenca del Lago de Atitlán	Some times of the year	Never	No brackish water, high elevation
Río San Pedro, west Peten			River is different ecosystem than a lagoon
Laguna del Tigre National Park, near Río San Pedro Lago Petexbatun	Eisermann		Lack info on white
Lago Petexbatun			
Humedal Las Lisas – La Barrona	All year	From November to March	
Parque Nacional Sipacate Naranjo Manglares:Poza del Nance El Paredón			
Reserva Natural Privada Manchon Guamuchal Canales cubiertos de mangle y bocabarras de: Río Ocós, Río Tilapa, Río Pacaya			

PELICANS ARE NATIVE TO MOST OF THE AMERICAS

Pelicans are almost everywhere where there is coastal water” is the way I initially thought about pelicans. I associate them with resting on the posts which you find at boat docks on both coasts of many parts of the Americas. Thus I was rather surprised to find a happy brown pelican, *Pelecanus occidentalis*, on a tree stump in Lake Atitlan, in the Highlands of Guatemala, Central America.

The nearest ocean coast is a long way away! There is no salt water beach anywhere near Lake Atitlan; this lake is 100% fresh water. It turns out that the white pelican is not listed for Lake Atitlan (FLAAR Mesoamerica list, 2017, based on all available information). The white pelican is the one found commonly along both coasts. Yet it also relishes fresh water (or at least a mixture of fresh and saline water). The Canal de Chiquimulilla has lots of white pelicans at certain times of the year. This waterway is fresh water but salt water flows in from the ocean during the dry season.



It is educational to continue doing studies of where each species of pelican is found in Guatemala to understand which Mayan areas had these birds available as religious, social or mythical icons.



Pelecanus occidentalis. Brown pelican drying its wings. Photograph by David Arrivillaga. FLAAR Mesoamerica, Mar. 10, 2020. 10:48 AM. Livingston, Izabal. Camara: Sony A9, Mark II. Lens Sony FE 200-600mm F5.6-6.3 G OSS. Settings: 1/2500 sec; f/5.6; ISO 3200

Photo from page # 11

Pelecanus occidentalis.

Photograph by: David Arrivillaga, FLAAR Mesoamerica. March, 2020. Livingston, Guatemala. Camara: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS Settings: 1/2500 sec; f/5.6; ISO 2500

SEASONAL ASPECTS

You may not find pelicans every month in every wetlands. But the brown pelican is considered a resident of the Rio Dulce area. This means Amatique Bay (where the Rio Dulce empties into the Bay in front of the town of Livingston), Canyon Rio Dulce, El Golfete, Rio Dulce, and potentially Lake Izabal.



Pelecanus occidentalis Brown pelicans resting on a boat.

Photograph by: David Arrivillaga, FLAAR Mesoamerica. March, 2020. Livingston, Guatemala. Camera: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS Settings: 1/2500 sec; f/5.6; ISO 2500

Photo from page # 15. *Pelecanus occidentalis*.

Photograph by: David Arrivillaga, FLAAR Mesoamerica. March, 2020. Livingston, Guatemala.

Camera: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS Settings: 1/2500 sec; f/5.6; ISO 2500





Pelecanus occidentalis

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica, Mar. 10, 2020. 10: 48 AM. Livingston Izabal. Camera: Canon 1D X Mark II. Lens: EF 300mm f/2.8L IS II USM. Settings: 1/1000 sec; f/8; ISO 3200

ECOSYSTEM ASPECTS: WADING BIRDS ARE DIFFERENT THAN **BIRDS THAT FLY AND DIVE, OR SWIM AND FISH**

There are many classifications of water-related birds. But each ornithologist is specialized in an area of the world. The lake, rivers, swamps and other wetlands of Guatemala and not always identical to Florida or Texas or North Carolina coasts, so I prefer to double-check standardized classifications. I also tend to be a bit informal since the same area may be desert-dry one month and under 1 meter of water in another month at the height of the rainy season. But so far, the pelicans in Izabal are all swimming on the surface of deep water; not in reed swamp areas. But if I were to spend 12 solid months over an entire year, I would not be surprised to see pelicans adapt to other areas besides just deep water.

While on the subject of waterbirds, wading birds are also an interest and we will cover these in future reports. For example, an area to find wading birds is on the south side of the main highway from Flores to Melchor de Mencos (East side from Parque Nacional Yaxha Nakum Naranjo, Petén). In front of the aldea of La Polvora there are wetlands that wading birds love. These birds are migratory, so it is often pure luck whether and when you can see them. (Sebastian de la Hoz (of the comfortable hotel Ecolodge El Sombrero 15 minutes from La Polvera).

PELICANS IN PETEN

BROWN PELICAN *Pelecanus occidentalis*

Previously known in Petén from one record in 1968 (month?) at Yaxhá (Land 1970). 12 Jun 77 at Tikal by RAR — NT; additional sightings at Tikal on 17 Feb 89, at LPI in Mar 78, Feb 88, Feb and Sep 89, and along rd between ER and Tikal on 28 Feb 88. Current status: visitor over Tikal; more common at LPI. (Beaver et al. 1991: 79).

NT = new record for Tikal National Park.

ER = El Remate (far east end of Lake Peten Itza)

LPI = Lago Petén-Itzá,

During our field trips to Parque Nacional Yaxha Nakum Naranjo from July 2018 through August 2019 we found pelicans there occasionally.



Pelecanus occidentalis

Photograph by David Arrivillaga. FLAAR Mesoamerica, Mar. 10, 2020. 11:12 AM. Livingston Izabal.
Camera: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS. Settings: 1/1000 sec; f/6.3; ISO 2500



Pelecanus occidentalis

Photograph by: David Arrivillaga, FLAAR Mesoamerica. March, 2020. Livingston, Guatemala.

Camera: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OS. Settings: 1/2500 sec; f/5.6; ISO 2500

NICE PLACE TO SEE PELICANS IN **GUATEMALA IS AUTO SAFARI CHAPIN**

There is an open air lake in Auto Safari Chapin. This is a private zoo open to the public six days a week all year. You can take a boat ride to see all the pelicans. All these birds are completely free to fly wherever they want to, but they stay here at Auto Safari Chapin since they have plenty of water and food. And they are protected here. These pelicans are not captive; they are free to swim, to fly away (to nearby Monterrico). But these pelicans are intelligent and they realize they are totally protected inside the areas of Auto Safari Chapin. There are several ponds, lagoons, creeks and one good-sized lake on the extensive property of Auto Safari Chapin. The largest lake is filled with happy groups of white pelicans. To zoologists and ornithologists this bird is known as the American White Pelican, *Pelecanus erythrorhynchos*.



Pelecanus erythrorhynchos. White pelicans swimming next to a ***Pelecanus occidentalis***, the Brown pelican. Photograph by Sofía Monzón. FLAAR Mesoamerica, Aug. 24, 2015. 5:38 PM. Auto Safari Chapín, Santa Rosa Guatemala. Camara: Canon EOS 6D. Lens: EF300mm f/2.8L IS II USM. Settings: 1/500 sec; f/5.6; ISO 320



Pelecanus occidentalis. Photograph by Sofía Monzón. FLAAR Mesoamerica, Aug. 24, 2015. 5:38 PM. Auto Safari Chapín, Santa Rosa Guatemala. Camara: Canon EOS 6D. Lens: EF300mm f/2.8L IS II USM. Settings: 1/500 sec; f/5.6; ISO 320



Pelecanus occidentalis. Photograph by Sofía Monzón. FLAAR Mesoamerica, Aug. 24, 2015. 5:38 PM. Auto Safari Chapín, Santa Rosa Guatemala. Camara: Canon EOS 6D. Lens: EF300mm f/2.8L IS II USM. Settings: 1/500 sec; f/5.6; ISO 320

LOTS OF PELICANS **SOUTH OF RETALHULEU**

(UP THE COAST FROM CHAMPERICO)

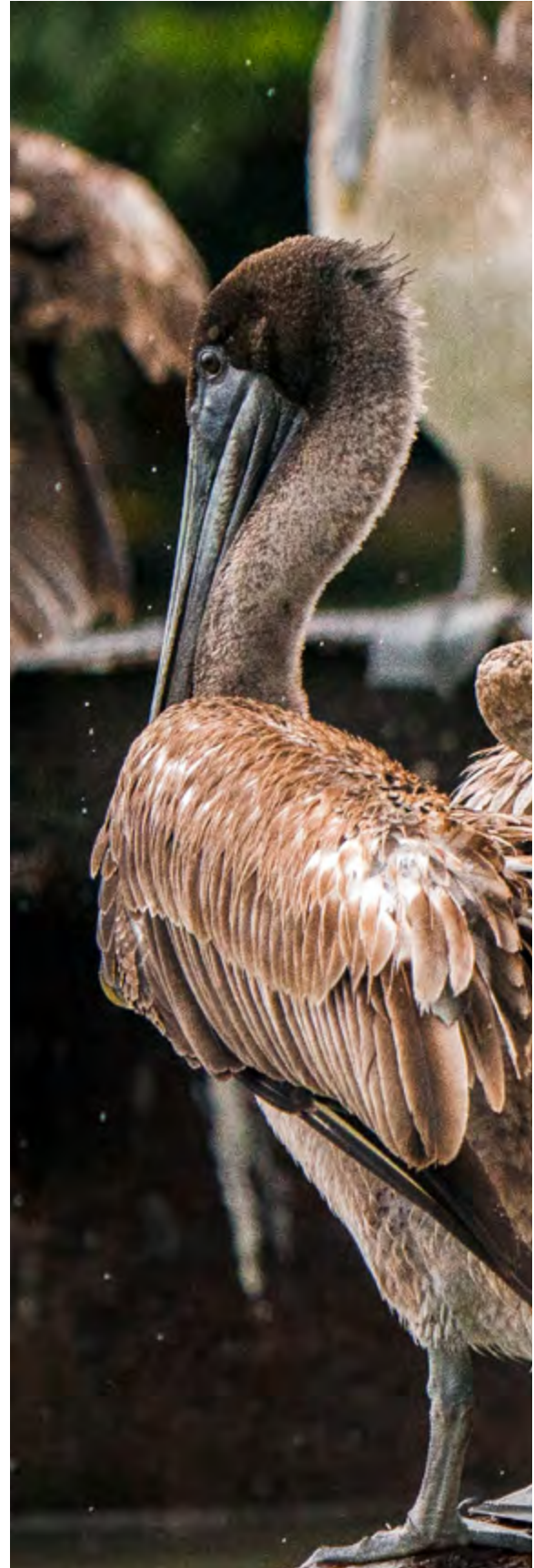
Manchón Guamuchal Special Protected Area is one of the more remarkable areas of Guatemala to see waterbirds. But it is rather far away and both Monterrico wetlands and Izabal wetlands are much easier to reach and easier to find hotels, boats, etc. But I will definitely always remember the many pelicans we saw and photographed in the Manchón Guamuchal Special Protected Area.

AMATIQUE BAY, PELICANS PERCHED ON BOATS AND DOCKS

In the early morning most of the brown pelicans are lined up or en-masse on tops of boats and along piers going alongside the water or out into the water. Many of these boats are abandoned fishing boats.

Pelecanus occidentalis.

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica, Mar. 10, 2020. 10:43 AM. Livingston, Izabal. Camera: Canon 1D X Mark II. Lens: EF 300mm f/2.8L IS II USM. Settings: 1/1000 sec; f/8; ISO 3200





Pelecanus occidentalis.

Photograph by Melanny Celeste Quiñonez . FLAAR Mesoamerica, Jan. 1, 2019. 2:34 PM. Manchón Guamuchal. Camera: Canon EOS 6D. Lens: EF 300mm f/2.8L IS II USM. Settings: 1/4000 sec; f/7; ISO 1250



Pelecanus occidentalis.

Photography by Melanny Celeste Quiñonez. FLAAR Mesoamerica, Jan. 1, 2019. 2:43 PM. Manchón Guamuchal. Camera: Nikon D5. Lens: 600.0 mm EF 300mm f/2.8L IS II USM. Settings: 1/2500 sec; f/6; ISO 1600

WHERE TO FIND PELICANS IN THE MUNICIPIO DE LIVINGSTON?

From east to west the water areas change depth and width dramatically. Some shore areas are virgin forests; other shore areas have been cut down for vacation homes. Other areas have been destroyed in milpa agriculture. And the depth of the water and degree of salinity vary from east to west. What would be helpful would be a waterbirds research project with realistic funding to take notes on all these aspects and make this information available to ornithologists and bird watchers. But in the meantime, we would at least like to provide basic information.

- **Amatique Bay**, directly connected with the Caribbean Sea but receives fresh water from the Rio Dulce
- **Trees near the town of Livingston** along the shores of the west part of **Amatique Bay** where the Rio Dulce empties into the bay.
- **Canyon Rio Dulce** tall cliffs on both sides of the deep river water
- **El Golfete**, wide area with lagoons, reed swamps, and lots of biodiversity of wetlands along the northern and southern edges.
- **“Bird Island”**, There are several islands more or less 50 to 70 meters across in several areas.



Pelecanus occidentalis

Photograph by David Arrivillaga. FLAAR Mesoamerica, Mar. 10, 2020. 11:11 AM. Cayon Rio Dulce, Livingston Izabal. Camera: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS. Settings: 1/2500 sec; f/5.6; ISO 2500



Pelecanus occidentalis

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica, Mar. 10, 2020. 10:42 AM. Livingston, Izabal.
Camera: Canon EOS-1D X Mark II. Lens: EF 300mm f/2.8L IS II USM. Settings: 1/1000 sec; f/8; ISO 3200

AMATIQUE BAY, PELICANS **FLOATING OR FLYING OVERHEAD**

Although most pelicans are hanging out on boats and docks much of the day, there are other of the same brown pelican species floating around the water. Others are flying slowly overhead, looking for fish so they can dive into the water to catch them. It would really help to have a budget to assign a team of students to keep notes on how many of the pelicans are in the air; how many floating on the water surface, how many are on boats and docks. And do the ones who are fishing, do they dip their beaks into the water while floating? Or fly overhead and dive at least to the surface to catch a fish dumb enough to be near the surface?



Pelecanus occidentalis.

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica, Mar. 10, 2020. 10:43 AM. Livingston, Izabal.
Camera: Canon 1D X Mark II. Lens: EF 300mm f/2.8L IS II USM. Settings: 1/1000 sec; f/8; ISO 3200

PELICANS STANDING ON TREE LIMBS **OVERLOOKING LIVINGSTON AND AMATIQUE BAY**

The palm trees and other trees along the shore area (near the edge of the town of Livingston) are filled with many species of birds, especially black cormorants. But you can also find brown pelicans up in these trees at some hours in some months.



Pelecanus occidentalis

Photograph by David Arrivillaga. FLAAR Mesoamerica, Mar. 10, 2020. 11:12 AM. Livingston Izabal.
Camera: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS. Settings: 1/1000 sec; f/6.3; ISO 2500

CANYON RIO DULCE, PELICANS RESTING ON TREE LIMBS ON THE TALL CLIFFS ON BOTH SIDES OF THE DEEP RIVER WATER

Some pelicans are floating on top of the water. But most mornings we noticed the brown pelicans resting along branches all the way along the edges of Canyon Rio Dulce. It depends on what time of day and what time of year, whether a sunny day, a rainy day, etc.

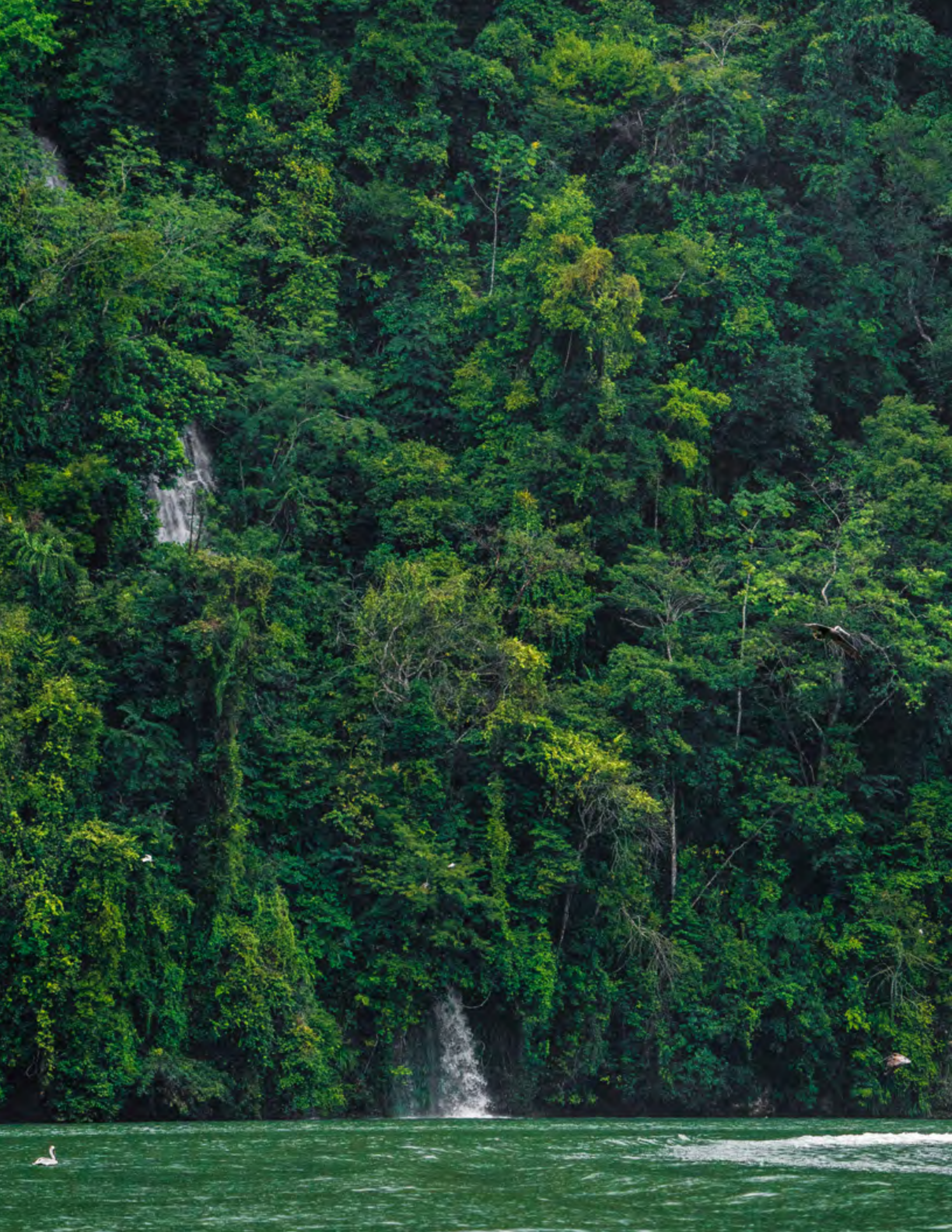


Pelecanus occidentalis.

Photograph by David Arrivillaga. FLAAR Mesoamerica. Mar. 10, 2020. 10: 44 AM. Livingston Izabal. Camara: Sony A9, Mark II. Lens Sony FE 200-600mm F5,6-6,3 G OSS. Settings: 1/1000 sec; f/8; ISO 3200

Photo from page #27 - Canyon Rio Dulce

Photograph by David Arrivillaga. FLAAR Mesoamerica. Mar. 10, 2020. 11:24 AM. Canyon Rio Dulce, Livingston, Izabal. Camara: Sony A9, Mark II. Lens: Sony FE 200-600mm F5,6-6,3 G OSS. Settings: 200mm,1/1250 sec; f/6,3; ISO 2500





Pelecanus occidentalis.

Photograph by David Arrivillaga. FLAAR Mesoamerica. Mar. 10, 2020. 10: 44 AM. Livingston Izabal.
Camara: Sony A9, Mark II. Lens Sony FE 200-600mm F5.6-6.3 G OSS. Settings: 1/1000 sec; f/8; ISO 3200

EL GOLFETE

Every kilometer away from the town of Livingston the percent of salt water is less, but the water is still brackish enough that Bull Sharks swim up the river in some seasons in some years. El Golfete is such a large area and has inlets, streams, coves, lagoons and inland has reed marsh ecosystems. Since it's a large area you are so busy learning about the waterlily plants and the shore plants that you don't notice which waterbirds are present. But pelicans are definitely more common in other areas. They especially like boat docks so they can be out of the water but not up in a tree. When they are in trees there are no boats or docks for them nearby.

“BIRD ISLANDS”

(IN EL GOLFETE AND RIO DULCE)

The ones we visited so far were the east half of El Golfete but there are other remarkable bird islands that you can see to the east from the main highway bridge over Rio Dulce. The Bird Islands have lots of bird species, especially herons and others. So these are not just areas for pelicans. But in general, I estimate you can see more brown pelicans here in the Municipio de Livingston than any other area of Guatemala except for the Costa Sur (Monterrico and adjacent lagoons in Canal de Chiquimulilla) but these are often primarily white pelicans.

So if you are an ornithologist, biology student, or birder, Rio Dulce and Amatique Bay are great places to see “thousands” of brown pelicans (most of the year, since, in theory, most are resident). But there may be other times of the year when lots of additional migratory pelicans arrive and other times of the year when pelicans are not as many.



Pelecanus erythrorhynchos

Photograph by Nicholas Hellmuth. FLAAR Mesoamerica, Feb. 11, 2018. 4:24 PM. Lago de Izabal.
Camara: Nikon D5. Lens: 600.0 mm f/4.0. Settings: 1/3200 sec; f/7.1; ISO 1000

Photo from page # 30. Pelecanus occidentalis.

Photograph by Erick Flores. FLAAR Mesoamerica, Jan. 31, 2018. 8:10 AM. Canal de Chiquimulilla, Santa Rosa Guatemala. Camara: Canon EOS-1D X Mark II. Lens: EF300mm f/2.8L IS II USM. Settings: 1/5000 sec; f/6.3; ISO 1000





Pelecanus erythrorhynchos

Photograph by Erick Flores. FLAAR Mesoamerica, Jan. 31, 2018. 8:10 AM. Canal de Chiquimulilla, Santa Rosa Guatemala. Camera: Canon EOS-1D X Mark II. Lens: EF300mm f/2.8L IS II USM. Settings: 1/5000 sec; f/6.3; ISO 1000

WE HAVE BEEN PHOTOGRAPHING **WHITE PELICANS FOR MANY YEARS**

Especially in Izabal and around Canal de Chiquimulilla, we have been photographing white pelicans for at least a decade. But be sure to check with CECON guides to find which month white pelicans are present. We did a water bird field trip of the Canal de Chiquimulilla in late December 2017 and not a single white pelican (or brown pelican) was noticed. Also keep in mind that every year is different. What you find one year is not automatically guaranteed what birds you will find in that same area the same month in another year.



Pelecanus erythrorhynchos

Photograph by Erick Flores. FLAAR Mesoamerica, Jan. 31, 2018. 8:10 AM. Canal de Chiquimulilla, Santa Rosa Guatemala. Camara: Canon EOS-1D X Mark II. Lens: EF300mm f/2.8L IS II USM. Settings: 1/5000 sec; f/6.3; ISO 1000



Pelecanus erythrorhynchos

Photograph by Erick Flores. FLAAR Mesoamerica, Jan. 31, 2018. 8:15 AM. Canal de Chiquimulilla, Santa Rosa Guatemala. Camara: Canon EOS-1D X Mark II. Lens: EF300mm f/2.8L IS II USM. Settings: 1/5000 sec; f/6.3; ISO 1000



Pelecanus occidentalis

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica. Livingston, Izabal. Mar. 10 2020. 10:37 AM. Camara: Sony RX10 IV. Settings: 1/2500 sec; f/4.0; ISO 500

HOW MANY PELICANS ARE DOCUMENTED IN CLASSIC OR POST CLASSIC MAYA ART?

Because pelicans are found on both coasts, and the brown pelican is also found on fresh water lakes, there is a good chance to find it in Classic Maya art: murals, stone stelae, stucco friezes, ceramic plants, bowls, and especially vases. But there are so many kinds of water birds in the Mayan areas that more detailed photography is needed of their beaks and heads. Often only the beak and head are pictured on the ceramics (especially as a lid of an Early Classic Peten-Campeche-Belize Lowland Maya basal flange bowl or a tetrapod). We have a long-term interest in creating a photographic reference archive of water birds so that iconographers, epigraphers, art historians, archaeologists, and ornithologists can make a list of which waterbirds are shown in Classic Maya art (and which are not featured).

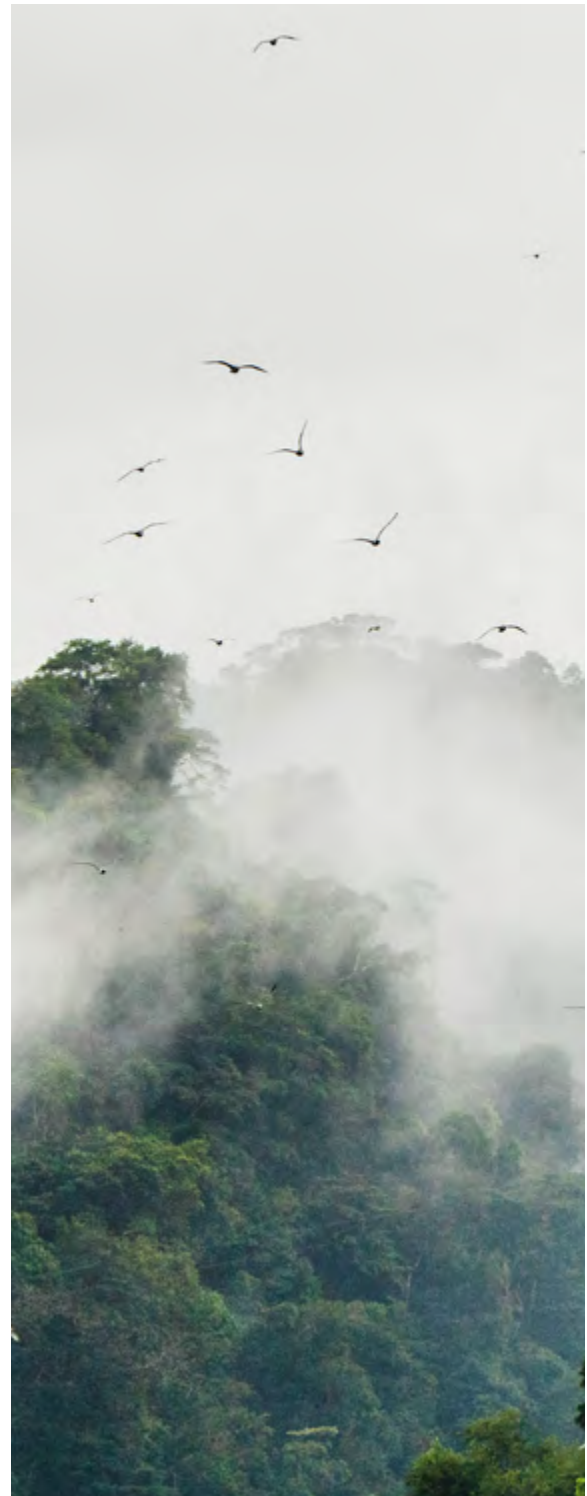


Pelecanus occidentalis.

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica. Livingston, Izabal. Mar. 10 2020. 10:37 AM.
Camera: Sony RX10 IV. Settings: 1/2500 sec; f/4.0; ISO 500

Most “identifications” of plants and animals in Maya art vary from sad to unfortunate. The most common mistake is J. Eric S. Thompson claiming that the *Plumeria* flower is the model for the 4-petalled Kin hieroglyph. Aside from the fact that no *Plumeria* flower has 4-petals, we have found several dozen 4-petalled flowers native to Mesoamerica that are more likely models for the wide range of sizes and shapes of 4-lobed designs in Maya art.

Another common misidentification is that any bird in Maya or Tiquisate (Teotihuacan influenced art of the Costa Sur) that has a wide beak is a “duck.” This is not true. Most of the birds held by women in Tiquisate art are more likely the boat-billed heron. So species by species we will be preparing photo reference archives on the waterbirds of Izabal. We are also interested in the Snake Eating Hawk, a model for the bird in the Popol Vuh and a model for the Principal Bird deity. But this Laughing Falcon is not easy to find (this bird has two popular names in English). So today let’s start with pelicans in general and the brown pelican in particular since this was the species most noticeable in the bay, rivers, lakes, and lagoons of the Municipio de Livingston in March 2020. But we will also mention where else in Guatemala we have seen pelicans in past years.



Canyon Río Dulce

Photograph by David Arrivillaga. FLAAR Mesoamerica. Mar. 10, 2020. 11:24 AM. Canyon Rio Dulce, Livingston, Izabal. Camara: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS. Settings: 200mm, 1/1250 sec; f/6.3; ISO 2500



TIPS ON PHOTOGRAPHING PELICANS

- 📷 | Since the white pelican birds are white, they over-expose easily, so be sure you know how to handle this when you work the images in Photoshop or Bridge. All photos should be tweaked so they are similar in lighting style.

- 📷 | For brown pelicans the top of their heads tend to be dark.

- 📷 | In Livingston there are so many pelicans you can photograph them from the dock in front of your hotel. Any zoom lens is fine. But in other areas you need long telephoto lenses.

- 📷 | We try to avoid using zoom lenses since a prime lens gives sharper results, but often the distance you are from a bird changes constantly so it is not realistic to change lenses every 5 minutes. In this case a zoom lens is best (but not from a 3rd party brand). We prefer lenses from the same brand as the camera, especially for telephoto lenses.



Pelecanus occidentalis.

Photograph by: David Arrivillaga, FLAAR Mesoamerica. March, 2020. Livingston, Guatemala. Camara: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS Settings: 1/2500 sec; f/5.6; ISO 2500

Photo from page # 35 Pelecanus occidentalis.

Photograph by David Arrivillaga. FLAAR Mesoamerica. Mar. 10, 2020. 11:24 AM. Canyon Rio Dulce, Livingston, Izabal. Camara: Sony A9, Mark II. Lens: Sony FE 200-600mm F5.6-6.3 G OSS. Settings: 200mm,1/1250 sec; f/6.3; ISO 2500



ACKNOWLEDGMENTS FOR LIVINGSTON

We thank Ing. Daniel Esaú Pinto Peña Livingston mayor (Izabal, Guatemala) for the cooperation provided by him and the team of the Municipio de Livingston. Also thank him for accompanying us to Nito Maya during our first field trip and has kindly made time to visit with our team on each of the initial field trips.

We thank Edwin Mármol Quiñonez, Coordinación de Cooperación de Livingston (Izabal, Guatemala), and his son Leonel. He kindly accompanied us every day of the first field trip to the Municipio of Livingston.

We appreciate the cooperation of Juana Lourdes Wallace Ramírez, Asistente Administrativo, Coordinación de Cooperación de Livingston, for organizing the day-by-day transportation and logistics for our team. Lourdes also accompanies us each day of each field trip, including long hikes and deep into caves.

The local guides, the boat captain and boat assistants, the local drivers are helpful because they know the local area. We appreciate that they share their experiences with us; in return we also mention to them the aspects of the different plants that we find on the shore or along the trails.

We will donate all photographs that we take in the Municipio of Livingston to the Municipio. These can be used by the Municipio at no fee; credit to the individual photographer and to FLAAR Mesoamerica is appreciated when an image is used.





ACKNOWLEDGEMENTS TO FLAAR MESOAMÉRICA

The reports are a joint production between the field trip team and the in-house office team. So here we wish to cite the full team:

Flor de Maria Setina is the office manager, overseeing all the diverse projects around the world (since FLAAR-REPORTS research on advanced wide-format digital inkjet printers is a worldwide project for over 20 years. We also utilize the inkjet prints to produce educational banners to donate to schools. On a banner we can show an entire ecosystem at a size even larger than in a coffee table art book.

Vivian Díaz is project manager for flora, fauna projects (field work and resulting reports at a level helpful for botanists, zoologists and ecologists, and for university students). We then utilize our experience to also produce books on ecological rescue concepts for educational projects in local schools in remote areas of Guatemala.

Victor Mendoza identifies plants, mushrooms, lichen, insects, and arachnids. When his university schedule allows, he also likes to participate in field trips on flora and fauna research.

Vivian Hurtado prepares the bibliography for each subject and downloads pertinent research material for our e-library on flora and fauna. All of us use both these downloads plus our in-house library on flora and fauna of Mesoamerica (Mexico through Guatemala into Costa Rica).

Andrea Sánchez is a designer who helps prepare the master-plan for aspects of our publications.

Senaida Ba is photography assistant for many years. She knows the Canon, Nikon and is learning the two new Sony mirrorless cameras. She prepares, packs, sets-up, and helps the photographers before, during, and after each day's field trip.

Jaqueline Gonzalez is a designer who puts together the text and photographs to create the actual report (we have several designers at work since we have multiple reports to produce).

Roxana Leal is Social Media Manager for flora and fauna research and publications, and MayanToons educational book projects

Maria Alejandra Gutierrez is an experienced photographer, especially with the Canon EOS 1D X Mark II camera and 5x macro lens for photographing tiny insects, tiny flowers, and tiny mushrooms. Work during and after a field trip

also includes sorting, naming, and processing. And then preparing reports in PDF format.

David Arrivillaga is an experienced photographer and is able to handle both Nikon and the newest Sony digital cameras. Work during and after a field trip also includes sorting, naming, and processing. And then preparing reports in PDF format.

Juan Carlos Hernandez takes the material that we write and places it into the pertinent modern Internet software to produce our web pages (total network is read by over half a million people around the world).

Paulo Nuñez is a webmaster, overlooking the multitude of web sites. Internet SEO changes every year, so we work together to evolve the format of our web sites.

Valeria Aviles is an illustrator for MayanToons, the division in charge of educational materials for schools, especially the Q'eqchi 'Mayan schools in Alta Verapaz, Q'eqchi' and Petén Itzá Maya in Petén, and the Q'eqchi 'Mayan and Garifuna schools. in the municipality of Livingston, Izabal.

Josefina Sequen is illustrator for MayanToons and also helps prepare illustrations for Social Media posts and for animated videos.

Rosa Sequen is also an illustrator for MayanToons and also helps prepare illustrations for Social Media posts and for animated videos.

Laura Morales is preparing animated videos in MayanToons style since animated videos are the best way to help school children how to protect the fragile ecosystems and endangered species

Maria José Rabanales, She is part of the team for editing photographic reports and educational material of Flora and Fauna since September 2020. She works together with others of the team to prepare the finished pdf editions of the material of the Yaxhá Nakum Naranja Project.

Alejandra Valenzuela, biology student is now part of Flora y Fauna's photographic report and educational material editing team since September 2020.

LIVINGSTON: THE CARIBBEAN BIODIVERSITY WONDERLAND OF GUATEMALA

Izabal, one of the regional departments of Guatemala that offers a variety of recreational activities, is home to numerous nature parks and diverse natural landscapes. There are white sandy beaches a short boat trip away, with tall jungle-covered mountains in the background, and the Mesoamerican Reef System in the Caribbean Sea on the horizon in front of you. Mangrove swamps, seagrass, islands, cenotes, caves, karst geology canyons and streams of crystal clear water abound along the Río Dulce and Lake Izabal coast or inland. All this together makes Livingston one of the destinations for tourists wanting to do bird-watching, explore caves, get healthy exercise hiking through trails in the rainforest. In addition to the incredible flora and fauna that the municipality offers, three different cultures coexist in the ecosystem (Mayan Q'eqchi', Garifuna and Ladinos).

In order to conserve the biodiversity found in the municipality and that continues to be of benefit to the ecosystem, it is necessary to have an updated record of the species that inhabit here and thus be able to detect changes in the species population. Thanks to the efforts of different institutions focused on environmental improvement projects at various sites in Livingston (FUNDAECO (Río Sarstun), CONAP (Río Dulce), CECON-USAC (Chocón-Machacas), ARNPG (more than ten private reserves), among many others) there are records of species of flora, fauna and ecosystems of this municipality of Izabal.

Using this information in the most efficient way and using the potential of digital technology, the database for the municipality can be supplemented with photographic records of flora, fauna, and ecosystems. The FLAAR Mesoamerica team, in cooperation with the municipal authorities, have begun to produce this educational material using the photographic records generated during the cooperation project to account for the flora, fauna and ecosystems that can be seen in Livingston. This will be accomplished in order to provide information to the schools, families and institutions already working to protect the environment.

We hope to attract the attention of professors, botanical garden clubs, orchid and bromeliad societies, students, tourists, experts, explorers, photographers and nature lovers who want to get closer, to marvel at the species of flowering plants, mushrooms and lichen that FLAAR Mesoamerica finds during each field trip each month.





FLAAR Mesoamerica (Foundation for Latin American Anthropological Research), is a nonprofit Guatemalan institution founded under the direction and enthusiasm of Biologist Eduardo Sacayon and Dr. Nicholas Hellmuth, a specialist of Classic Mayan iconography and architecture who then evolved his research to focus on edible and utilitarian plants, with the aim of wanting to see our country be recognized throughout the world for its biodiversity of plants, cultures, and natural resources. Likewise, our work has arisen from the interest and support of the board directors of FLAAR Mesoamerica, its president, Eduardo Sacayón, its vice president Flor de María Setina, the secretary Rodrigo Girón, the treasurer Oscar Lambourg and his member Elsa Morales.

One of our main objectives at FLAAR Mesoamerica is to increase consciousness about caring and protecting Mesoamerican natural diversity. By utilizing high-resolution photography, we can better showcase the remarkable flora and fauna of Guatemala. These photographs, and the accompanying information, will awake the admiration and desire in those who follow our work. Thus, the FLAAR Mesoamerica teams create educational material about the biodiversity that deserves recognition and protection.

The work done at FLAAR Mesoamerica consists of the methodological compilation of facts about nature, flora, fauna, history, and cultures of Mesoamerica, and disseminate it to the largest audience both in Guatemala and around the world. We also are inspired to provide for all our readers plenty of annotated suggestions of lots of other reports, articles, thesis, dissertations, and web sites via our bibliographies of suggested additional reading. Our focus is generate materials that are easy to read, educational, reliable, and visually pleasing by using lots of full-color photographs -just like this report!

We also prepare illustrated books and animations for primary school children and Mayan families in Guatemala to have access to information about the need to protect the fragile ecosystems and flora and fauna throughout this Central American republic.

We are open to work with, share, and, expand our accomplishments with other organizations, institutions, or companies that share our vision.

You can find more of our work throughout the different digital platforms of our directory:



www.FLAAR-mesoamerica.org
www.digital-photography.org
www.maya-ethnozology.org
www.maya-ethnobotany.org

FLAAR_mesoamerica@flaar.org



REFERENCES CITED ON *PELECANUS OCCIDENTALIS* AND SUGGESTED ADDITIONAL READING

The first draft of this bibliography was by Linda Bac in 2016, then additional material added by Estefani Serrano, 2017. We are now updating it with myself and also Vivian Hurtado for 2020.

PDF's, Articles, Books to assist Ornithologists, Students and Bird Watchers

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Excellent records for Tikal, up to Uaxactun and down to Lake Peten Itza. Plus they say they collected data "east towards Belize." But very quickly (if you have been driving these roads for multiple decades) you realize that at least half of their birdwatching was from the highways. They did not even go the short distance from the Flores-to-Belize-border highway they were on (to the impressive Parque Nacional Yaxha Nakum Naranjo).

I would also disagree totally with their Figure 1 (trying to show where the Tropical Moist Forest begins). It would take me endless hours and since their map is so totally documentation that they don't know these areas, I will try to tone down my shock and surprise.

Poptun is totally different climate, soil (or lack thereof in a karst area), than Izabal (lots of karst but much different topography).

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The current Alcalde of Livingston, Mr. Daniel Pinto, together with his team of International Cooperation division, Mr. Edwin Mármol, have set the goal of achieving the municipality development in the years 2020-2024 based on the goals and indicators proposed by the 2030 Agenda for Sustainable Development. From this agenda, FLAAR Mesoamerica will collaborate to achieve Sustainable Development Goal (SDG) number 15 "Life on Land".

Throughout this cooperation project, different materials have been prepared, like this Photo Essay, that helps to collect information on species, different ecosystems: terrestrial, wetlands and fresh water biodiversity. This information would also be useful as part of a strategy to protect threatened species and prevent their extinction. The municipality's goals include to promote the sustainable use, conservation and research of the species of flora and fauna of the terrestrial, wetlands and aquatic shore and coastal ecosystems of the Guatemalan Caribbean. Learn more about this project and the SDG indicators at: <https://flaar-mesoamerica.org/rain-forests-rivers-lakes-bays-ocean-caves-canyons-livingston-the-caribbean-biodiversity-wonderland-of-guatemala/>

SERIES OF MUNICIPIO OF LIVINGSTON



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- www.maya-ethnobotany.org
- www.maya-ethnozology.org
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This report may be cited with this information:

Hellmuth, N. (2020) Pelican Paradise, *Pelecanus occidentalis* Municipio de Livingston, Izabal Guatemala, Central America: FLAAR Mesoamerica.

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Any website in or related to the Municipio of Livingston, is also welcome to post this PDF on their web site (no fee). This permission includes travel agencies, hotels, guide services, etc. And you do not need to write and ask permission; but we do appreciate it when you include a link back to one of our web sites. CECON-USAC, CONAP, FUNDAECO, Plantemos, AIESEC, are welcome to publish our reports, at no cost.

All national parks, nature reserves, and comparable are welcome to have and use our reports at no cost. USAC, UVG, URL, Universidad Rural, INTECAP and other Guatemalan universities, and high schools, and schools, are welcome to post our reports, at no cost.

If you wish our flora and fauna material as a powerpoint presentation

Dr Nicholas (Hellmuth) is flown all around the world to lecture. He has spoken in Holland, Belgium, Germany, Austria, Greece, Italy, Serbia, Croatia, Bosnia, Russia, UK, Dubai, Abu Dhabi, Thailand, Korea, China, Japan, Canada, USA, Mexico, Panama, Guatemala, etc. He can lecture in Spanish, German, or English (or simultaneously translated to your language). He has lectured at Harvard, Yale, Princeton, UCLA, Berkeley and dozens of other universities, colleges, etc. He has also lectured at Rotary Club events, etc. He also writes cartoon books on plants and animals of Guatemala so gives presentations to kindergartens, primary school, high schools, etc. www.MayanToons.org shows our educational material for children.

If your club, association, institute, botanical, garden, zoo, park, university, etc. Wishes high resolution photos for an exhibit in your facility anywhere in the world

The Missouri Botanical Garden (MOBOT) has had two exhibits of the FLAAR Mesoamerica photos on Neotropical flowering plants of Guatemala. Photos by the FLAAR team have also been exhibited at Photokina in Germany and in Austria, Guatemala, and elsewhere. For use of these photos in a book or exhibit, naturally we need to discuss how to share the costs. We have material for entire exhibits on: Orchids of Guatemala (including aquatic orchids), Dye colorants from Mushrooms and Lichens of Guatemala, Bromeliads of Guatemala, Trees of Guatemala, Treetop Ecosystems of Guatemala (includes arboreal flowering cacti, bromeliads, and orchids), Cacao Cocoa Chocolate and their Maya and Aztec Flavorings. We naturally appreciate a contribution to help cover the costs of our office expenses for all the cataloging, processing, and organization of the photos and the field trip data.

To publish photographs

Hellmuth's photographs have been published by National Geographic, by Hasselblad Magazine, and used as front covers on books on Mayan topics around the world. His photos of cacao (cocoa) are in books on chocolate of the Maya and Aztec both by Dr Michael Coe (all three editions) and another book on chocolate by Japanese specialist in Mayan languages and culture, Dr Yasugi. We naturally appreciate a contribution to help cover the costs of our office expenses for all the cataloging, processing, and organization of the photos and the field trip data.

For Social Media

You can post any of the FLAAR Mesoamerica PDFs about the Municipio of Livingston on your Social Media sites; you can send any of these PDFs to your friends and colleagues and family: no cost, no permission needed.



PHOTO FROM BACKCOVER

Pelecanus occidentalis

Photograph by María Alejandra Gutiérrez. FLAAR Mesoamerica, Mar. 10, 2020. 10:43 AM. Livingston, Izabal. Camera: Canon 1D X Mark II. Lens: EF 300mm f/2.8L IS II USM. Settings: 1/1000 sec; f/8; ISO 3200

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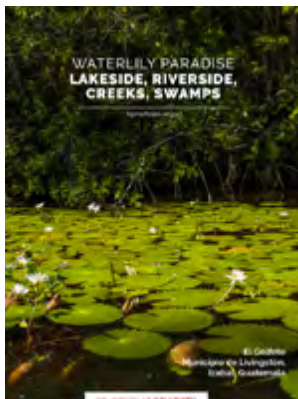
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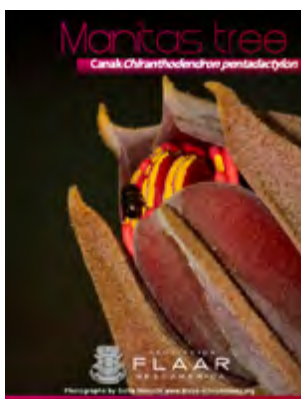
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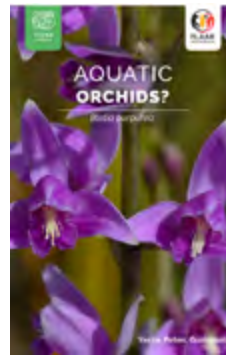
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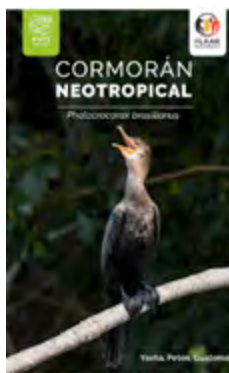
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