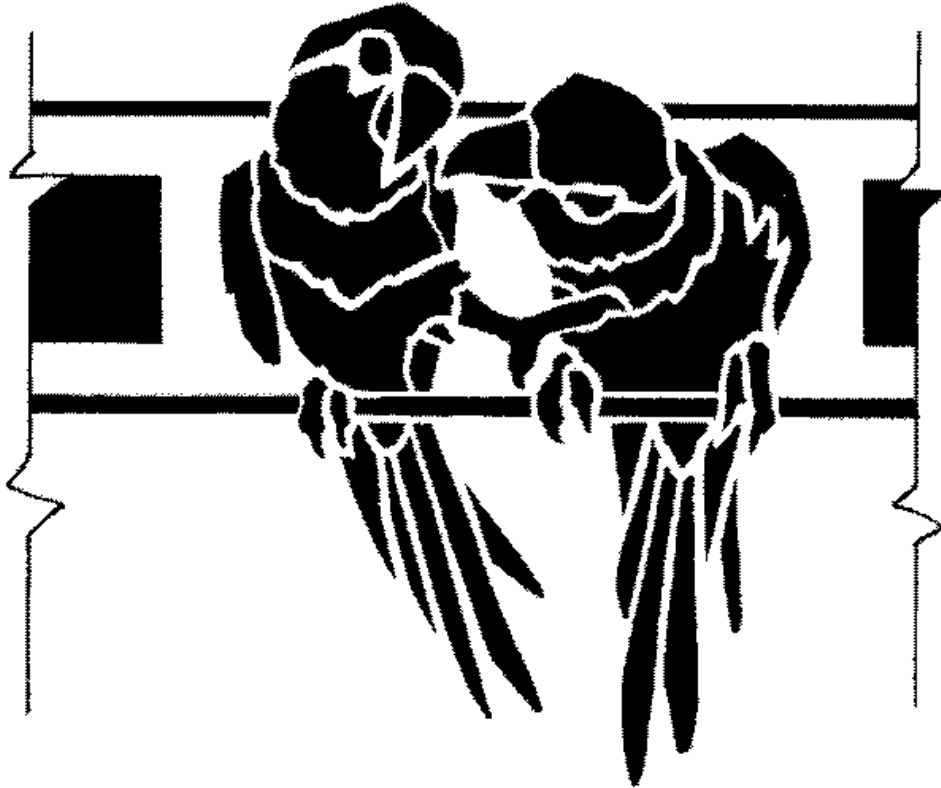
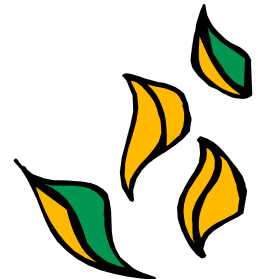




VOLUNTEER GUIDE BOOK



Wildlife Rescue and Conservation Association
Guatemala



The ARCAS Volunteer Guidebook

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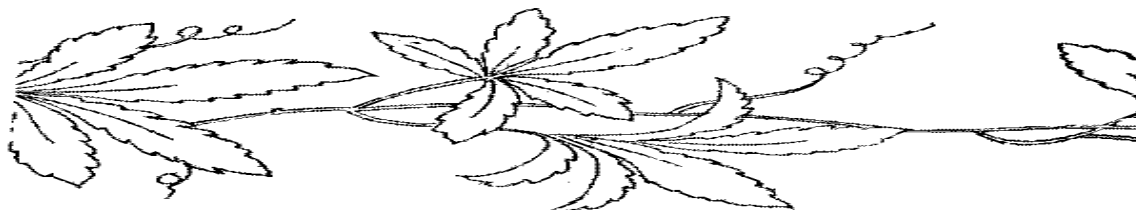
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1. ABOUT ARCAS

Asociación de Rescate y Conservación de Vida Silvestre (Wildlife Rescue and Conservation Association) is a Guatemalan non-governmental, nonprofit organization, legally registered with the Guatemalan government and the IUCN, committed to preserving wildlife and its habitat. Its objectives are:

- *To strive for the conservation, protection and research of wildlife;*
- *To rescue, rehabilitate and reintroduce¹ into their natural habitat wild animals seized from animal traffickers;*
- *To promote and assist in the creation and management of protected habitat areas for wild animals;*
- *To support tropical wild animal veterinary research;*
- *To reproduce and re-introduce animals in danger of extinction;*
- *To raise awareness among Guatemalans about the need to conserve natural resources through a program of education and information dissemination;*
- *To develop and promote economic alternatives in rural communities to the unsustainable consumption of natural resources.*

ARCAS was formed in 1989 by a group of Guatemalan citizens who became concerned as they saw their precious natural heritage, especially their wildlife, rapidly disappearing before their eyes. It was originally created for a very specific purpose: to build a rescue center to care for and rehabilitate wild animals that were being confiscated on the black market by the Guatemalan government.

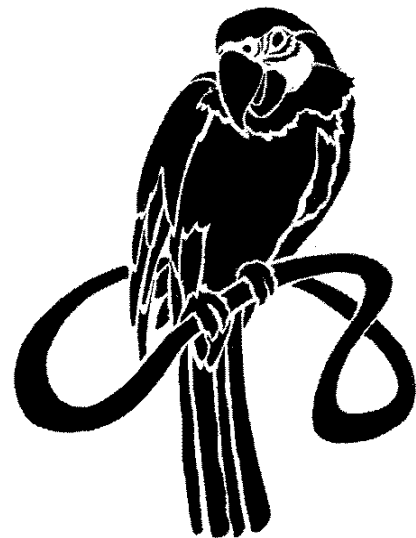
Since the establishment of the Rescue Center, ARCAS has branched out into other very necessary activities including environmental education, information-dissemination, ecotourism, marine turtle conservation, reforestation and habitat preservation. ARCAS carries out projects in three areas of the country: the remote northern department of Peten; the Guatemala City area; and, the Hawaii area of the southern pacific coast. The following is a summary of ARCAS's three main project areas:

1.1 ARCAS/Peten

In Peten, ARCAS conducts the following projects.

***Wild Animal Rescue and Rehabilitation Center**

This is ARCAS's keystone project. According to a collaborative agreement with the Guatemalan government, ARCAS is responsible for the rehabilitation and reintroduction of all confiscated wild animals in the Mayan Biosphere Reserve. The ARCAS Rescue Center is the largest and most advanced of its kind in Latin America caring for 400-600 wild animals of 40+ species per year.



¹ Although we use the term re-introduction in a general sense, what we are actually doing in most cases in the Mayan Biosphere Reserve is re-inforcing existing populations.

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***Environmental Education**

ARCAS's Environmental Education Department in Peten offers training to the teachers of Peten, helps develop curriculum for Peten public schools and offers environmental education activities in local schools, focussing on the nearby communities of El Arrozal, San Miguel, San Benito, Santa Elena and Flores. It also operates a very popular library at its office in San Benito, one of the few libraries open to the public in the area. In 2002, it inaugurated its Environmental Education and Interpretation Center on the grounds of the Rescue Center. The CEIA is meant to teach local students and visiting tourists about the evils of the illegal pet trade while at the same time ensuring that the animals in the Rescue Center are not needlessly exposed to humans.

***Macaws Without Borders**

ARCAS is participating in a multi-institutional, tri-national project called Guacamayas Sin Fronteras, or Macaws Without Borders, aimed at saving the last remaining populations of scarlet macaws in Guatemala, Mexico and Belize.

1.2 Guatemala City

***Environmental Education**

Members of the ARCAS Environmental Education Department travel to schools in the capital and other areas of Guatemala giving presentations using a variety of live animals, puppets and artifacts, carrying out interactive educational activities on topics including sea turtles, environment and health (cholera, parasites...), recycling, the tropical forest, reptiles and endangered animals. To date, the Department has reached out to more than 18,000 children and offered training to over 800 teachers.



In 1998, the Environmental Education Department with the support of the Columbus Zoo initiated a program of eco-educational field trips of underprivileged children from the Guatemala City area to the Hawaii Park to give them the opportunity to directly experience the wonders of the south coast ecosystem.

***Administration and Networking**

The Guatemala City office also coordinates and monitors all of ARCAS's project activities and carries out national and regional-level networking, fundraising and communications activities.

1.3 South Coast

ARCAS's base of activities for its southern, Pacific coast program is Hawaii Park, a three-hectare reserve on the beach, eight kilometers from the resort of Monterrico.

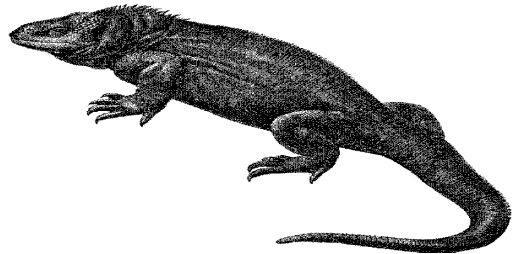
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***Sea Turtle Conservation**

At the Hawaii Park, ARCAS operates the most productive of the 18-21 hatcheries in Guatemala, collecting up to 40,000 olive ridley and leatherback eggs per year. It also carries out research on these endangered reptiles.

***Captive Breeding**

In an attempt to counteract the effects of unsustainable hunting and habitat loss, ARCAS breeds spectacled caimans (*Crocodyles caimanus fuscus*) and green iguanas (*Iguana iguana*) for release in the mangrove forests.



***Environmental Education**

ARCAS carries out educational activities such as lectures on litter, ecology and endangered species and interactive events such as beach clean-ups and baby turtle release “races” at area schools. It operates school hatcheries where students collect and bury their own turtle eggs and then release the hatchlings after they are born. It also monitors harvesting of mangrove wood and conducts local educational and reforestation campaigns.

***Mangrove Preservation and Reforestation**

The mangrove forests, wetlands and coastal lagoons of the Hawaii area are one of the last remaining natural areas on the south coast of Guatemala. ARCAS is working with the Guatemalan government to set up a 3,500 hectare protected area in the mangroves of the area.



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1.4 ARCAS BOARD AND STAFF, 2001

Board of Directors

Roberto A. Monterroso
Rafael Barrios Flores
Byron Rodríguez González
Julio Piedra Santa
Fernando Ramos
Roberto Rodriguez

President
Vice President
Treasurer
Secretary
Vocal
Vocal II

Personnel

Guatemala City

Miriam Monterroso
Colum Muccio

Oda Ericastillo
Ena Elizabeth Yanes
Luisa Maria Ortiz

Executive Director
Administrative &
Development Director
Director Education Department
Bookkeeping
Project Assistant

Peten

Miguel Fernando Martinez
Sergio Alejandro Morales
Jose Maria Bol Tzin
Elías Bol Hicho
Gerardo Pérez
Jorge Chi Laínez
Benedicto Contreras
Roberto Aroche
Carlos Chajaj
Felix Alonzo
Lucía Alvarez

Director Peten Program
Assitant Director Peten
Park Guard
Park Guard
Park Guard
Park Guard
Park Guard, CONAP
Park Guard, CONAP
Park Guard, CONAP
Park Guard, CONAP
Cook

Hawaii

Eduardo Merida
Eriberto Hernandez
Juan Polanco
Trent Hodges

Director, Parque Hawaii
Park Guard, CONAP
Park Guard, CONAP
Ecotourism, Peace Corps

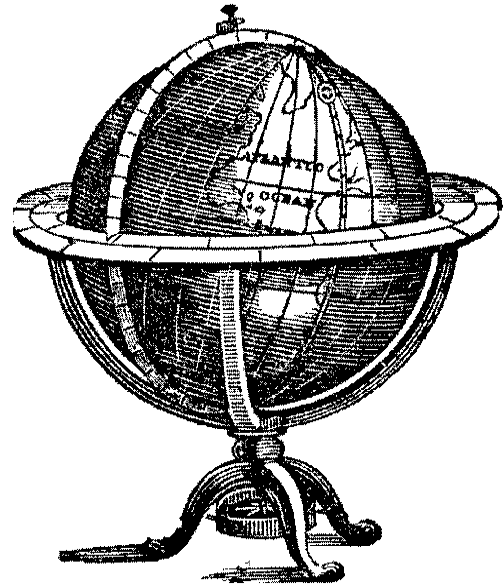


2. VOLUNTEERING WITH ARCAS

2.1 General Information

Volunteers contribute technical expertise to ARCAS's conservation projects as well as contributing to its financial self-sufficiency, and at the same time, they gain valuable work experience and an insight into Guatemalan culture. The majority of volunteers are foreign, though ARCAS also hosts some domestic volunteers and interns. The following is a summary of volunteers by nationality for the year 2000.

COUNTRY	VOLUNTEERS	VOLUNTEER DAYS
UK	95	1678
Germany	44	1519
USA	106	1338
Switzerland	12	497
Guatemala	38	487
Canada	32	323
Denmark	13	247
Holland	20	229
Australia	15	206
New Zealand	9	197
Norway	13	121
France	7	103
Austria	5	92
Belgium	8	83
Peru	2	71
South Africa	3	38
Honduras	9	36
Spain	3	36
Isreal	4	35
Sweden	1	28
Finland	2	27
Mexico	6	25
Italy	3	20
Costa Rica	4	18
Portugal	2	14
Slovakia	1	14
El Salvador	3	13
Nicaragua	2	10
Dominican Republic	2	8
Korea	1	7
Egypt	1	6
Kenya	1	1
TOTAL	467	7527



Being a small non-profit, ARCAS doesn't have the resources of a larger organization and volunteers are therefore expected to be fairly independent and self-sufficient. You will be expected to cover your own travel expenses to and from the projects as well as to take care of your own needs in terms of visas, special diets, medications and communications with loved ones back home. ARCAS cannot take responsibility for any accidents or illnesses that may occur while you are volunteering and volunteers are required to sign a waiver. You should take the initiative to learn as much as possible about Guatemalan culture before coming to volunteer. There are many travel guides and country profiles available. The Lonely Planet guidebook is the bible of the backpack traveler, giving a brief overview of Guatemala society and culture and invaluable logistical tips. Norman Swartz's "The Forest Society" though a bit outdated, gives a great anthropological and historical overview of Peten.

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Spanish Language

Your volunteer experience will also be greatly enhanced if you speak Spanish as will be your ability to contribute to our conservation efforts. Volunteers who plan to come to Guatemala for an extended period are encouraged to spend the first few weeks learning Spanish in Antigua, a stunningly beautiful colonial city nestled between three volcanoes 45 minutes from Guatemala City. Antigua is a world-renowned Spanish language study center with close to 50 Spanish schools. The standard study program is @\$200 per week including a homestay, food and 4-6 hours/day of 1-on-1 instruction. Quite a deal! There are also Spanish schools in Quetzaltenango, San Andreas (near the Rescue Center in Peten but not within commuting distance) and in Monterrico, 8kms from the Hawaii Park.

Security

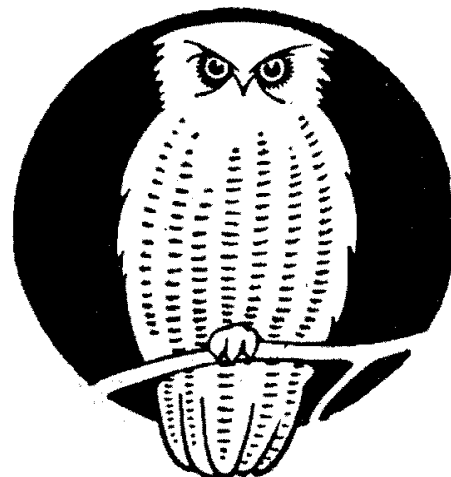
We have had no real serious security problems at either of our project sites and we want to keep it that way! Check with your local embassy or travel agency about the security situation in Guatemala. The US State Department publishes regular travel advisories regarding the security situation in countries around the world (<http://travel.state.gov/guatemala.html> website) but bear in mind that these usually err on the side of caution. Common sense goes a long way in avoiding problems in Guatemala. The following are some suggestions:

- *Avoid travel at night. The exception to this are night buses to Peten which are usually safe;*
- *Keep to well-traveled routes;*
- *Females shouldn't travel alone unless they are experienced travelers, fluent in Spanish and have planned their trip well;*
- *Don't wear flashy jewelry or accessories;*
- *Keep track of your belongings, especially in hotels and on public buses;*
- *Keep ARCAS staff, friends and family informed of your travel plans;*
- *If you plan on staying in Guatemala for an extended period, register with your embassy;*
- *Don't carry too much cash. Cash machines or ATMs are readily available and credit cards are accepted in many stores and restaurants;*
- *Make copies of important documents;*
- *You should have traveler's insurance, both for health and personal belongings.*

2.2 The Rescue Center in Peten

Facilities and Setting

The ARCAS Wild Animal Rescue and Rehabilitation Center is situated on a 45 hectare tract of land on Lake Peten Itza next to the Petencito Zoo, just a 10 minute boat ride from the touristic center of Flores. It is comprised of a quarantine area, veterinary hospital, rehabilitation enclosures, flight cages, kitchen, dining and workshop area, volunteer house, employee housing and a large floating dock. The animal cages and enclosures are scattered throughout the jungle in order to reduce stress to the animals.



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The Kinkajou Kingdom Environmental Education and Interpretation Center and associated interpretative trails are situated on a forested peninsula overlooking Lake Peten Itza, apart from the rehabilitation and quarantine areas of the Rescue Center. The Kingdom allows visitors and students to learn about the Rescue Center and the problems of the illegal pet trade without interfering negatively in the rehabilitation process.

The two-story volunteer house is where volunteers sleep and socialize and includes comfortable bunk beds, mosquito netting, and regular “western” bathrooms with showers and flush toilets as well as American style, 110V electricity. The kitchen and dining area is a large, comfortable rancho where most socializing and impromptu Spanish classes are held. It is also where ARCAS holds workshops and conferences. Rescue Center employees work on shifts and live in separate buildings.

The Science (Art?) of Wild Animal Rehabilitation and Re-introduction

The science of wildlife rescue, rehabilitation and re-introduction is a new one, and is more complex than it first appears; not simply a question of opening the door of the cage and letting the animal out. Several factors come into play which you should be aware of before coming to volunteer at the Rescue Center. Animals to be released into the wild:

- *Must have the skills necessary to be able to survive in the wild. For example, baby jaguars spend 18 months with their mothers learning to hunt and avoid dangers before venturing out on their own;*
- *(especially birds) Must not become imprinted on humans because once they are released into the wild or they will simply fly back to the nearest humans and either be caught or killed.*
- *(and most importantly) Must be healthy and not introduce infectious diseases into native populations.*

The ARCAS Rescue Center is on the cutting edge of this new science and welcomes your comments, suggestions and physical assistance as we find ways to re-introduce these orphaned animals. However, we must also ask you to carefully follow the protocols established for the Center and the instructions given by the staff.

All animals that come to the center must first pass through quarantine a minimum of 45 days. The majority of animals received by ARCAS are in very poor condition due to the trauma of capture and shipping during trafficking. Many die in quarantine before they even get to the rehabilitation stage. During some years, the mortality rate can reach as high as 80% in the quarantine area!

IMPORTANT: It is of utmost importance that volunteers follow protocols established to prevent the spread of infectious diseases from animals in quarantine to the larger population in the rehabilitation area. An outbreak of Newcastle disease in 1998 killed over 70 parrots! We have protocols for activities both in Hawaii and in Peten. Please ask the staff to show you a copy when you get to the project.

Sick or injured animals receive treatment at the William Sharp Jr. Memorial Animal Hospital a basic medical facility which includes a centrifuge, microscope, incubators, X ray machine, scanner and scales. However, it is important to stress that once a wild animal has become sick or injured, it is very difficult to cure it; the key is prevention!



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After quarantine, animals are transferred to the rehabilitation area where, according to species, they are either held in individual or group cages. Monkeys are formed into troupes and then released into the largest rehabilitation enclosure to build up their muscles and assess their ability to survive in the wild. Other mammals are released into the smaller enclosures. The three rehabilitation enclosures - one measuring 50 X 50 meters, the other two measuring 25M X 25M – are constructed of chainlink fencing with solar powered electric wire running along the top. This design allows us to leave intact islands of forest within the enclosures so that the animals can be in a semi-natural setting. The enclosures include small observation cabins where volunteers monitor the animal's ability to survive in the wild based on pre-determined social, maintenance and sexual behaviors. In the future, we will mix species within enclosures in order to develop predatory avoidance behaviors.

Once they have grown their flight feathers, parrots and other social birds are released into the large flight cage so that they can learn to fly, build up their flight muscles and become accustomed to the vegetation of the jungle. During rehabilitation, animals are as much as possible given the type of food that they would naturally find in the wild and contact with humans is limited as much as possible. It is important to remember that though the urge is to be close to and pet the animals, they will eventually be released into the wild and their chances of survival will be diminished if they are imprinted on or accustomed to the presence of humans.



Re-introductions

Several times per year, ARCAS together with the National Council of Protected Areas (CONAP, ARCAS's government counterpart) conducts wild animal re-introductions or re-inforcements in some of the more remote areas of the Mayan Biosphere Reserve. (Re-introductions are releases into areas where that species no longer exists but once did; Re-inforcements are releases into areas where that species still exists, though in limited numbers.) Releases usually consist of:

- *Identification of a suitable site with adequate food and water, a healthy forest cover and protection from human predators.*
- *Transport of animals and materials to the release site.*
- *Construction of release cages (usually in the crown of the forest) and observation platforms*
- *Animals are released in stages: first left in their cages with food and water; then cage doors opened but continue to receive food and water; finally, removal of cages, food and water.*
- *Animals are monitored for a week or ten-days to try to assess their success in adapting to the wild.*

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Of course, the ideal destination for all the animals we receive at the ARCAS Rescue Center is release into the forests of Peten. However, due to the fact that animals may become imprinted on their human caretakers or never learn the skills needed to survive, many may never be released back in to the wild. This is especially true of jaguars and macaws, both of which are among the most endangered animals in the area.

Certain animals, like parrots, are our primary problem since they are so desirable as pets and command a high price on the international market. A single scarlet macaw can bring up to \$4,000 in the US market. The Guacamayas Sin Fronteras Project, of which ARCAS is a member, estimates that there are fewer than 500 wild macaws left in Mexico, Belize and Guatemala!

2.2.1 The Animals

The busy season at the Rescue Center is May-July, the beginning of the rainy season and also the breeding season for most of the animals of the area. During this season, we can receive 20 – 80 animals per week, usually brought to us in battered cardboard boxes, 90% being the result of confiscations by police or customs officials at roadblocks or in local markets. Close to 80% of the animals received at the rescue center are parrots and 90% are juveniles. On the following page is an inventory of animals received by ARCAS in 2009. Please note that this inventory includes animals received also in Guatemala City (most of which are then transferred to Peten) and Hawaii. Other year inventories are available in our annual reports.

Working with the animals

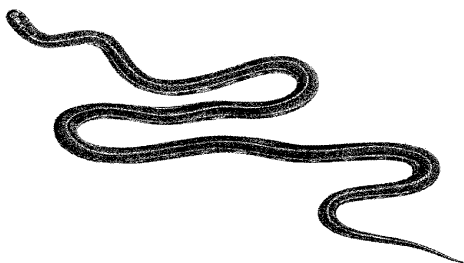
Needs of animals in captivity

Animals that are kept in captivity have many needs which have to be fulfilled in order for them to remain healthy both physically and mentally. These needs can be separated into four basic categories: environmental, nutritional, behavioral and maintenance. Each enclosure should be checked regularly to make sure each of these four needs are being addressed, though, again, it is important to remember to keep contact with the animals at a minimum. These animals are wild and we want to keep them that way.

1 Environmental:

These include any needs which are associated with the immediate surroundings of the animal, for example:

- + *appropriate size of enclosure*
- + *access to sunlight (esp. birds)*
- + *shelter from rain (check this regularly as it rots quickly)*
- + *appropriate materials for enclosures (enrichment)*
- + *basically, the more natural the environment, the better.*



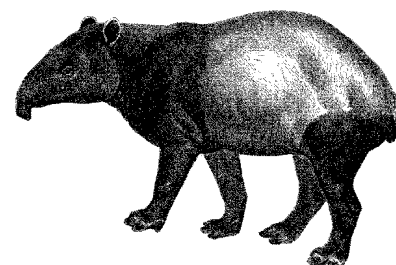
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ANIMALS RECEIVED / Ingreso de Animales, ARCAS 2009

		Peten	Guate	Hawaii	Total
TOTAL MAMMALS/Mamíferos		53	11	0	64
Coatimundi/Pizote	<i>Nasua narica</i>	8	0	0	8
Geoffrey's Spider Monkey/Mono araña	<i>Ateles geoffroyi</i>	14	0	0	14
Howler Monkey/Mono Saraguate	<i>Alouatta pigra</i>	8	0	0	8
Nine-banded armadillo/Armadillos	<i>Dasyus novemcictus</i>	1	0	0	1
Margay/Tigrillo	<i>Leopardus wiedii</i>	2	0	0	2
Kinkajou/Micoleón	<i>Potos flavus</i>	2	3	0	5
Brocket deer/Cabrilo	<i>Mazama americana</i>	2	0	0	2
White Tailed Deer/Venado Cola Blanca	<i>Odocoileus virginianus</i>	12	0	0	12
Collared peccary/Coche de Monte	<i>Tayassu tajacu</i>	1	0	0	1
Gray Fox/Zorra gris	<i>Urocyon cinereoargenteus</i>	0	6	0	6
Opossum/Tacuazin		0	1	0	1
Greater Grison/Grison	<i>Galictis vittata</i>	1	0	0	1
Northern Tamandua/ Oso hormiguero	<i>Tamandua Mexicana</i>	1	0	0	1
White Lipped Peccary/Jabaly	<i>Tayassu pecari</i>	1	0	0	1
Raccoon/Mapache	<i>Procyon lotor</i>		1	0	1
TOTAL BIRDS/Aves		201	21	0	222
Red-fronted Parrot/Loro Frente Roja	<i>Amazona autumnalis</i>	101	0	0	101
White-fronted Parrot/Loro Frente Blanca	<i>Amazona albifrons</i>	34	0	0	34
White-crowned Parrot/Cotorra Cabeza Blanca	<i>Pionus senilus</i>	10	0	0	10
Scarlet Macaw/Guacamaya Roja	<i>Ara macao</i>	10	0	0	10
Mealy Parrot/Loro Cabeza Azul	<i>Amazona farinosa</i>	7	1	0	8
Aztec Parakeet/Perica Azteca	<i>Aratinga aztec</i>	12	0	0	12
Orange-fronted parakeet/Perica guayabera	<i>Aratinga canicularis</i>	2	2	0	4
Ringnecked Dove/Paloma	<i>Streptopelia risoria</i>	4	0	0	4
Golden-fronted Woodpecker/Pajaro carpintero	<i>Melanerpes aurifrons</i>	3	0	0	3
Chachalaca	<i>Ortalis vetula</i>	3	0	0	3
Brown Jay/Urraca	<i>Cyanocorax morio</i>	2	0	0	2
Crested Guan/Cojolita	<i>Penelope purpurascens</i>	2	0	0	2
Mottled Owl/Buho del Bosque	<i>Strix virgatta</i>	2	0	0	2
White-winged Dove/Paloma	<i>Zenaida asiatica</i>	3	0	0	3
Grey hawk/Gavilan Gris	<i>Asturina nitida/buteo nitidus</i>	1	0	0	1
Tamaulipas Pygmy-Owl/Buho pigmeo	<i>Glaucidium sanchezi</i>	1	0	0	1
Pelican/Pelicano	<i>Pelecanus occidentalis</i>	1	0	0	1
Brown-hooded Parrot/Cotorra cabeza parda	<i>Pionopsita haematotis</i>	1	0	0	1
Keel-billed Toucan/Tucan Real	<i>Ranphastos sulfuratus</i>	1	0	0	1
Violaceous Trogon/Trogon Pecho Amarillo	<i>Trogon violaceus</i>	1	0	0	1
White-bellied chachalaca/Chacha	<i>Ortalis leucogastra</i>	0	1	0	1
Highland Guan/Cojolita	<i>Penelopina nigra</i>	0	2	0	2
Pacific Paraket/Chocoyo	<i>Aratinga holochlora strenua</i>	0	9	0	9
Orange-chinned Parakeet/Perica señorita	<i>Brotogeris jugularis</i>	0	3	0	3
Crested Caracara/Gavilan	<i>Cara cara</i>	0	1	0	1
Orange-fronted parakeet/Perica guayabera	<i>Aratinga canicularis</i>	0	1	0	1
Nightjar/Tapa caminos		0	1	0	1
TOTAL REPTILES		31	9	473	513
Boa/mazacuata	<i>Boa constrictor</i>	1	3	0	4
Iguana/Iguana	<i>Iguana iguana</i>	2	5	463	470
Black iguana/iguana jiota	<i>Ctenosaura similis</i>	0	0	2	2
Mesoamerican Slider/Tortuga Jicotea	<i>Trachemys scripta</i>	6	0	3	9
Moreleti's Crocodile/Cocodrilo moreleti	<i>Crocodylus moreleti</i>	11	0	0	11
Central America River Turtle/Tortuga Blanca	<i>Dermatemys mawii</i>	4	0	0	4
Furrowed Wood Turtle/Tortuga del Bosque	<i>Rhinoclemmys areolata</i>	6	0	0	6
Common Snapping turtle/Tortuga samundango	<i>Chelydra serpentina</i>	1	0	0	1
Neotropical Rattlesnake/Cascabel	<i>Crotalus durissus</i>	0	1	0	1
Mud turtle/Galapo	<i>Kinosternum sp.</i>	0	0	4	4
Spectacled Caiman/Caiman Comun	<i>Caiman crocodilus fuscus</i>	0	0	1	1

TOTAL ANIMALS RECEIVED IN 2009/Total de animales recibidos en 2009 **285** **41** **473** **799**

Includes captive-bred animals/ Incluye animales nacidos en cautiverio: 463 iguanas; 10 white-tailed deer/venado cola blanco; 6 scarlet macaws/guacamayas rojas



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2 Nutritional:

Fulfilling the dietary necessities of the animals:

- + *access to clean water **at all times***
- + *proper diet; both staple and wild foods mixed with vitamin supplements*

3 Behavioral:

Needs associated with the mental health of an animal which are beyond its day-to-day survival. Some signs of a stressed animal are:

- + *continuous pacing and other repetitive movements*
- + *inactivity (i.e. sitting in a corner all the time)*
- + *other noticeable problems such as pulling out hair or not eating*

The presence of one or more of these problems may indicate that the animal is stressed, in which case cage improvements must be made or the animal may need to be transferred to another area of the Center.

4 Maintenance:

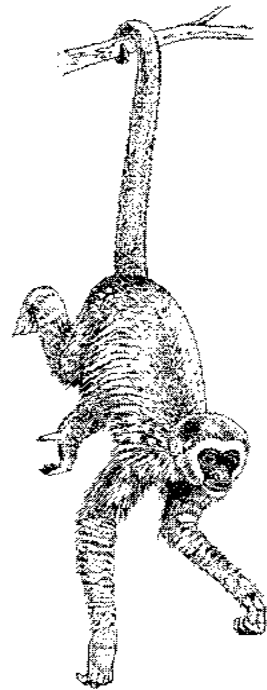
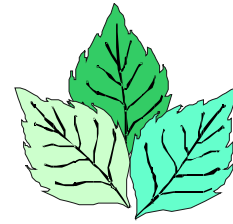
Monkeys

Monkeys are diurnal, arboreal and very social. They are active animals and need plenty of stimulus. Spider monkeys are brachiators, which means that they need to swing through the trees using their strong forelimbs. As a result, they need many branches from which to swing and climb. Change the location of the vines and perches periodically. This takes almost no time, yet contributes greatly to their mental health.

Birds

Parrots are very social animals and need companions with which to preen. They need plenty of branches in which to perch and lots of room to fly. The most efficient way to fulfill both these needs is to place the perches close to the ends or sides of the enclosure so that the middle or center is free of clutter for flying. Make sure the perches are the appropriate diameter for the birds (i.e. the bird's foot should not be able to close fully around the perch, nor should it barely be able to curve around it). Use common sense as to the size of perches.

Parrots often need to exercise their beaks by chewing on objects. They normally use the wooden perches as an outlet for this. This is perfectly natural and should not be suppressed. This is why perches need to be replaced often. Be sure to allow some sunlight to enter the cages as the vitamin D produced from it is necessary for healthy feathers.



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Both the volunteers and the full-time workers take part in the care of the animals at the Center under the supervision of the Rescue Center veterinarians and volunteer coordinator. The work consists of cage cleaning, food preparation and monitoring of the health of the animals. Many animals arrive at the center with health problems associated with the trauma of capture and transport and need continual observation and medical attention. On the other hand, we try to avoid the animals becoming “imprinted” on humans and ask volunteers not to handle animals more than necessary as most will be released back into the wild. (For this reason, we also restrict access to the public to the Rescue Center.) Released animals accustomed to humans have less of a chance of surviving in the wild.



Quarantine

Most of the animals arriving at the Rescue Center have been confiscated from poachers and traffickers of the illegal pet trade and are therefore usually in poor condition due to malnutrition, stress and injury. Too often, while in this weakened state, they are also exposed to pathogens not commonly encountered in the wild, such as those of humans and domestic species.

For this reason, all animals arriving at the Rescue Center are placed in quarantine for a period of at least 45 days. During this period, their overall condition is assessed, including health, disease, nutrition and behavioral status. Identified problems are rapidly treated and this may include medicating, bandaging and, if necessary, euthanizing. Each animal is placed on antibiotics upon arrival, the final date for the quarantine treatment is recorded on the chalkboard. Please check it regularly to ensure an animal is not receiving unnecessary medication.

Working in quarantine requires vigilant attention to both the animals and their husbandry (i.e. cleaning, feeding, watering, etc.) Small details are often extremely important. To prevent the spread of disease, quarantine workers are limited to working in the quarantine area while those working in the rehabilitation area are not to enter the quarantine area. Quarantine workers must follow special sanitation protocols. When working in the quarantine area it is necessary to use gloves and a shirt that you'll wear only in this area. Upon entering or exiting the caged section of quarantine, step into the trough of diluted bleach solution and scrub your hands before and after leaving the area. These procedures are designed to protect workers as well as animals from the spread of disease.

Many diseases are zoonotic (i.e. they can be transmitted to humans), thus, cleanliness and hygiene are important not only for the health of the animals but also for your own personal safety.

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It's an emergency if:

- *a bird is unable to perch or is lying on the cage floor*
- *an animal is actively bleeding*
- *an animal has unusual repetitions*
- *an animal has severe diarrhea*
- *an animal has severe vomiting*
- *a baby bird whose crops has not been emptied (refer to diagram)*

Notify both the ARCAS staff and the veterinarian in charge immediately, since all of these situations may be life threatening. The following is a description of the quarantine workers' daily job:

Health check

After changing, washing hands and stepping in the bleach solution, perform a "walk through health check" by observing each animal. Pay attention to:

- + Unusual faces (look for a change of color)
- + Unusual behavior (is the animal lying on the bottom of the cage, perched with ruffled feathers, unalert, having breathing difficulties, fighting with cagemates, etc.)
- + Unusual findings (vomit, blood, missing fur or feathers, excessive water consumption)
- + Leftover food (did the animal eat?)

Record all findings, both negative and positive. Note the species involved and the cage numbers, time of day, distinguishing feature of animals involved in a multi-animal situation. Report unusual findings to the ARCAS staff member directing quarantine.

Hygiene

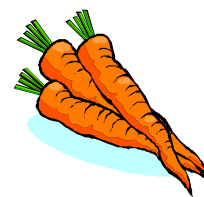
Spray and scrub all cages daily in the morning before feeding. If the cage becomes extremely soiled later in the day, re-clean it. Deposit organic debris raked from under the cage in the compost bin and spread lime thinly over the freshly raked area. Take food and water bowls out of the cages and wash them with soap and water. Fill water bowls with fresh water after all cages are clean.

ALL ANIMALS MUST HAVE FRESH WATER AT ALL TIMES!

When cleaning, be careful not to let the animals escape! The animals in quarantine may be active carriers of disease and it is important to prevent these animals from infecting wild populations. If an animal does escape, notify the area supervisor immediately.



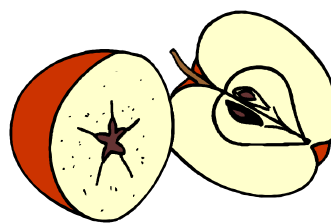
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Feeding

Except for the nocturnal animals that are fed once during late afternoon, most animals in the Center are fed twice a day. The morning feeding is generally with concentrate or corn. The afternoon feeding is comprised of wild foods collected from nearby forests that the animals would normally eat in the wild.

Morning feedings should occur between 7 and 8 AM. Animals must have water at all times, change and refill water bowls when necessary. Diet varies depending on species, age and food availability. One or two hours after feeding check how much food have been consumed. After consulting with the biologist, adjust the amount given if necessary. If you have concerns or questions about the type or amount of food given, ask the staff.



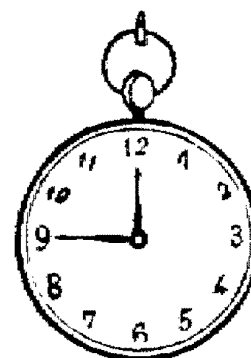
2.2.2 Volunteering activities

Depending on the time of year, the Rescue Center hosts anywhere between 0 and 20 mostly international volunteers, ranging from veterinary students to graduate researchers to international travelers. ARCAS has internship agreements with several universities and rescue centers overseas that send veterinarian medical students and researchers for practical experience. It also has a collaborative relationship with the Columbus Zoo, which offers technical advice and donations of used medical equipment. With director Jack Hanna as host, the Zoo sponsored the production of the video “Animal Orphans of Peten”, which airs on PBS and the Discovery Channel.

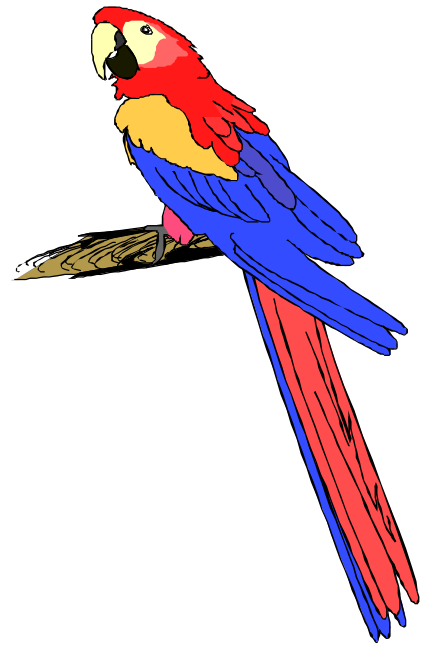
There are certain responsibilities that volunteers at the Rescue Center have and everyone is expected to pull their own weight. Work begins at 7:00 A.M. with the cleaning of cages and feeding of the animals. The animals do not work on our schedules, rather they follow their own internal clock which insists that they eat early in the day. The time for your rest and relaxation is later in the day when the temperature and humidity usually demands it.

A typical day at the Center might consist of the following.

<u>TIME</u>	<u>DUTY</u>
6:30	Get up, feed the animals, clean cages
8:30	Breakfast
9:30	Chores around the center
11:00	Pick up foodbowls, clean cages
13:00	Lunch
14:00	Feed the animals, clean cages
16:00-18:00	Individual projects, swimming, hiking, construction...
18:00	Dinner & socializing



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How to feed

Feeding methods vary depending on the age and health of the animal. The following provides general information on feeding young animals of the species most commonly received at the Center. Remember, don't be afraid to ask questions if you are unsure of the technique.

Parrots and Macaws (Psittacines)

Feed young parrots and macaws using a catheter-tipped syringe. Hungry nestling display a feeding behavior which consists of rapid head thrusts and bobbing up and down. By pressing under the mandible or on the sides of the beak, you can stimulate this behavior. The head movements are important since they cause the glottis to close, allowing large amounts of food to be delivered quickly, lessening the chance of aspiration (i.e. choking).

The birds are fed a mixture which should be somewhat soup-like as opposed to an oatmeal-like consistency (a very thick mixture may cause crop stasis).

The amount of food given and the frequency of feeding depend on the age, development and health of the chick and the diet used. In general:

- + 1-5 days old, feed 6-10 times daily
- + eyes closed, feed 4-6 times daily
- + eyes open, feed 3-4 times daily
- + emerging feathers, feed 2-3 times daily

Check with Rescue Center staff to ascertain the exact feeding regimes for each animal. When feeding, fill the crop to capacity but make certain it is nearly empty before the next meal. Young birds must be fed the maximum amount of food early in development to stimulate growth and to increase crop capacity. At least once daily the crop should be completely empty. This should occur between the last night feeding and the morning feeding. If there is food remaining in the crop in the morning, notify the staff as it may indicate a health or developmental problem.

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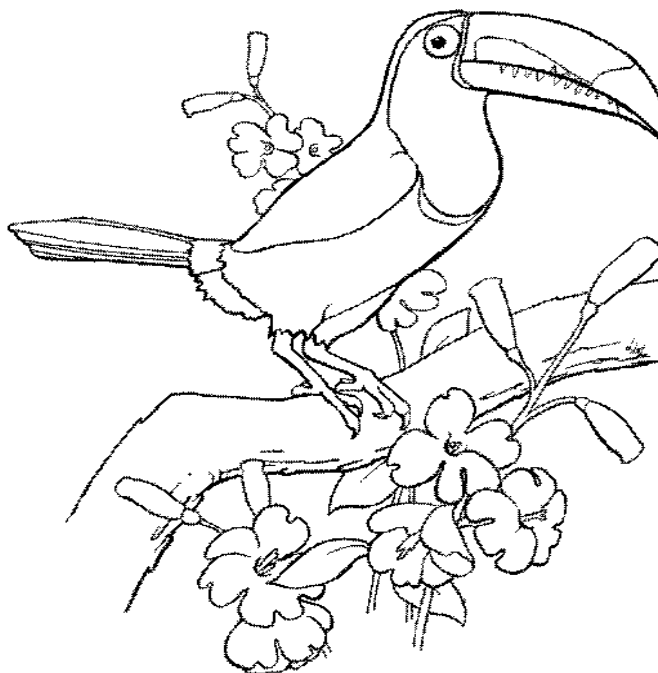
You should be aware of 3 common problems in young parrots and macaws.

- A) Air in the crop - caused by delivering the food too slowly; the nestling tries to gulp food faster than it is being delivered, causing ingestion of air.
- B) Crop stasis - food is not moving from the crop into the rest of the digestible tract. Food will remain from the previous feeding (i.e. the crop does not empty).
Mild cases may be caused by cold food, a dehydrated food mass or overfeeding. It can also be a sign of a serious disease or developmental abnormalities.
If the crop has not emptied after a feeding, notify Rescue Center staff immediately.
- C) Crop burns caused by giving food that is too hot. ALWAYS stir the food and test the temperature before feeding. The food should be body temperature (i.e. place a small dab on your wrist to check; it should not feel hot or cold). If an accident occurs and a bird is fed hot food, notify the veterinarian.

The birds are weaned when they reach an appropriate body weight. Some birds basically wean themselves by refusing to be hand-fed, others must be encouraged to wean (especially macaws). Several weeks before weaning, the bird needs to be offered solid foods, such as fruit, vegetables, and corn. Check with the quarantine supervisor as to which foods should be used. Once the fledgling has achieved its proper weight or is consuming solid foods, eventually eliminate the mid-day feeding.

Weaning is a stressful time for birds and a weight loss of 10- 15% can be expected. Excessive weight loss may, however, be a signal of a sub-clinical illness manifesting itself (especially be Gram negative bacteria or the gastrointestinal tract), improper nutrition, or other management problems. If you observe excessive weight loss, slow crop emptying, depression, diarrhea or regurgitation at weaning it is important to differentiate this normal behavior from a pathological condition.

Parrots need a varying number of perches depending on their ability to fly. If they cannot fly, they will require more perches in order to get around. If they can fly, 2 or 3 strategically placed perches will suffice. Give raptors (birds of prey) 2 or 3 perches at most because they prefer to hop, as opposed to climb around the cage. Assess each animal's needs. Adding additional perches, platforms or shelters may improve the cage dramatically. As well, removing any unnecessary clutter (unused perches, cines, etc.) will provide the animal with additional space in which to move about.



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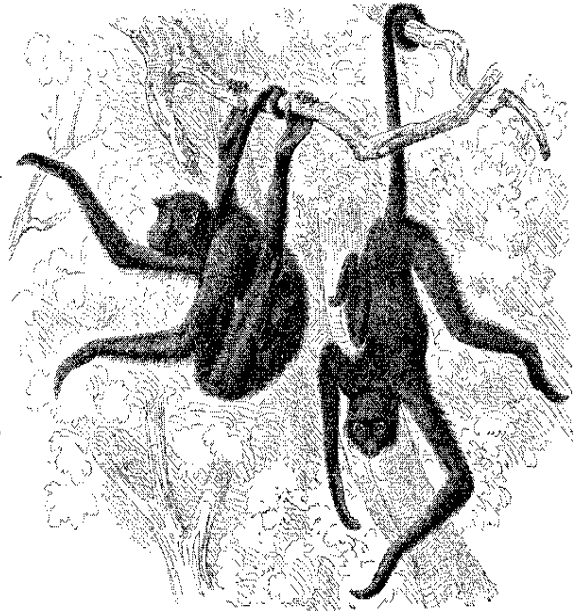
Toucans

Before or when the feathers are slightly emerging, feed toucans mashed fruit and strained meat every few hours. Remember, toucans do not have a crop, so **DO NOT** feed the bird until you would normally observe the firm swelling in the neck indicating satiation. Instead, feed about 3-5% of the bird's body weight and usually the nestling will accept food until it is full. **DO NOT FORCE FEED!** If you have questions, ask the quarantine staff. As the nestling matures, the fruit and meat can be given in small chunks. Check with staff before changing the food consistency.

Spider Monkeys

Infant and young spider monkeys are an exception to the general rehabilitation rule of limited contact. They require tactile stimulation and nurturing to facilitate proper development. Without this care, they may succumb to a "failure to thrive" syndrome. However, once they are in a group situation, this type of contact is not necessary.

Infant and young monkeys require bottle feeding with the frequency depending on age. (Infants require feeding every 3 hours). Check with the staff veterinarian to determine the frequency. The formula should be slightly warm when fed to the monkey. As soon as teeth appear, begin offering small amounts of fruits, leaves, oatmeal, and dog food soaked in formula. As solid food increases, formula should be decreased in proportionate amounts.



Feeding periods are a great time to offer nurturing contact. It provides an opportunity to imitate grooming behavior by carefully searching through the fur for nits and lice. A play period should occur before and after each feeding. Encouragement to climb, swing and reach for things should be given at this time. Report any unusual findings, such as diarrhea and vomiting to the staff veterinarian, as these can quickly lead to dehydration and possibly death in young primates.

Extra duties

Volunteers will often be asked to perform extra duties in addition to the care and feeding of animals. Special projects include cage and quarantine improvement. Cage improvements can be made by assessing the animal's life history (i.e. nocturnal/diurnal, arboreal/terrestrial, solitary or gregarious).

In addition to the regular daily feeding and care of the animals, we usually have special on-going activities in which we expect volunteers to participate as needed. These activities include:

- + *construction of cages or extra buildings;*
- + *trail maintenance;*
- + *gathering of wild foods for the animals;*
- + *and research into the wild diets of the animals.*

Depending on your experience and skills, you may also be asked to help in veterinary medical treatment and operations and well as in the periodic blood and feces samples we must take to monitor the health of the animals.

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For Veterinary Students

It is important to remember that your stay at the Rescue Center will involve more than veterinary work. You will be expected to perform the same types of chores as non-veterinary volunteers, including house cleaning chores, cleaning cages, manual labor and washing dishes.

The majority of the animals received at the Rescue Center are in poor condition having been confiscated from illegal traffickers or donated by concerned citizens. As a result, much of the veterinary work we carry out involves emergency and trauma medicine. Before coming to the Rescue Center, it is important to familiarize yourself with techniques of avian trauma and pediatric medicine. It will also help if you understand concepts of avian and wildlife nutrition. While the majority of the cases are birds (psittacines), a few are also reptiles and mammals.

Veterinary curricula vary in the order of material presentation and sometimes staff may assume you have knowledge of a subject to which you have not yet been introduced. This is especially true for first, second and third-year students. Don't be afraid to admit inexperience. There's nothing to be ashamed of. Remember, it's better to admit inexperience than injure a patient!

Also please note that although we do perform medical procedures on the animals, opportunities to take part in such procedures waxes and wanes with the number of animals we receive and their conditions. Generally, our most active period is during the breeding season at the beginning of the rainy season during the months May-July. However, even during the slow times it is still possible to have a meaningful veterinary learning experience at the Rescue Center by focusing on practical physicals, cage design, enrichment options, project design or becoming involved with outside community programs with ARCAS. Remember, it's up to you to create your experience.

Perhaps the most satisfying work we carry out at the Center are the releases which we carry out 2-4 times per year. Volunteers may assist in identifying appropriate release sites (with sufficient water and food and few nearby human settlements), constructing release platforms and monitoring released animals.

In general, we expect volunteers to become a willing part of the Rescue Center team and to take an integral part in the day-to-day operations of the Center. We also expect that, barring physical limitations, all volunteers take an equal part in performing all tasks at the Center regardless of background, training or educational level. At times there is a lot of work, especially during the breeding season (June-August) when we receive the majority of our seized animals; other times there is very little to do.

Likewise, at times we have 15 or more volunteers and you will have little to do; other times you will be the sole volunteer and will be asked to carry a heavier load. We ask for your understanding and cooperation in these matters.

In addition, volunteers are encouraged to develop their own individual special projects. If you see potential for such a special project, let us know and we will work with you to translate that idea into practice. There are lots of great ideas out there; the difficult part is putting them into practice. In the past, volunteers have taken on projects such as developing interpretive trails, studying the behaviors of some of the animals in the Center, designing and painting signs and murals, and writing and illustrating this guide.

The Center is truly a magical place that abounds with natural beauty both within and outside the cages. There is plenty of time at night and during those steamy afternoon siestas to think and listen to the mysterious jungle noises that allude to danger and territorial squabbles. The beautiful creatures that surround you are all part of the experience. One only has to stop and look and listen for a moment to realize that saving the jungles of Peten is truly something worth being a part of.

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Kinkajou Kingdom

ARCAS's Kinkajou Kingdom Environmental Education and Interpretation Center is located on the grounds of the Rescue Center on the shores of Lake Petén Itza. Interactive exhibits educate the Guatemalan public and foreign visitors about the incredible biodiversity of the Mayan forest and the threats to that biodiversity. The center allows visitors learn about the wildlife rescue and rehabilitation work being carried out at the Rescue Center without interfering in that process. Kinkajou Kingdom includes a large Exhibits Pavilion, insect exhibit, camping area, workshop area and a swimming dock. A 700 meter interpretative trail and exhibits wind throughout the nearby jungle teaching visitors about the ecology and archeology of the Petén, the destructiveness of the illegal pet trade and the need to conserve the resources that make the Mayan Biosphere Reserve such a special place. Visitors can also see non-releasable animals from the Rescue Center, including parrots, macaws, chachalacas, kinkajous, raccoons, spider monkeys, margays and coatimundis. They learn why these animals cannot be returned to the wild and what can be done to help these beautiful creatures. The creation of Kinkajou Kingdom was possible thanks to the support of the Disney Wildlife Conservation Fund.

ARCAS is always looking for environmental education interns interested in improving the exhibits of the Kinkajou Kingdom. Please contact us if you are interested in a guided group tour.

At the Petén project, the ARCAS Education Department carries out educational activities in nearby communities and school, forms women's and children's groups of scouts and conducts ecotours as a way to raise-awareness about the need to conserve the natural resources of the area and to help "Peténeros" develop alternative, environmentally-sustainable ways to make a living.



The Columbus Zoo helped establish the ARCAS Rescue Center in 1990, and has since continued to support ARCAS's wildlife conservation efforts.

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2.2.3 Peten volunteer guidelines

It has been ARCAS's experience - both at its Rescue Center in Peten and its Sea Turtle Conservation Program in Hawaii - that the best way to avoid misunderstandings and ensure that the volunteer experience is rewarding for both parties is to adhere to several general guidelines.

Volunteer work is a two way street: the project and ultimately the animals of Guatemala benefit from the assistance of the volunteer; while the volunteer gains valuable knowledge and technical skills. At the Rescue Center, you will have an opportunity to see first-hand the difficulties of conserving endangered species in a developing country and this will help you understand the immensity of the work still to be done. The Center may encourage your imagination and creativity in coming up with ideas for the better care of the animals. You will also spend time working with Guatemalans. Not only will there be an exchange of ideas and culture but also an understanding of how to better communicate with another culture that is in the process of defining what conservation means for them. And last, but not least, the opportunity to work with wild animals which for most is the greatest joy of working at the Center.

Participation & costs

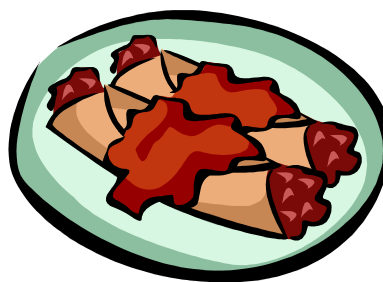
We are very flexible in terms of when and for how long you want to volunteer. You can start on any day of the week and you can just show up if you like, however, we occasionally fill up so we recommend that you call or e-mail us one week before you plan to arrive. Volunteers fees help support our conservation activities. Please contact us for the latest information about volunteer fees. The volunteer fee can be paid in either dollars or quetzals cash. Depending on skill level and willingness to work, we often offer discounts to volunteers who stay for longer periods of time but we ask that they pay the full volunteer fee for at least the first month until we get to know each other better. We offer airport pick-up and transport to the project site at an additional cost.

About food

Doña Luz is the cook for the Rescue Center, someone you'll want to get on the good side of right away. She works miracles with a very limited selection of food and a simple kitchen. However, like any chef, Doña Luz needs her creative space so we ask that other than helping when she so requests, your time in the kitchen be kept at a minimum.

The Guatemalan diet is basic, but nutritious. It consists of the staples of beans and corn tortillas, as well as rice, simple pastas, salads, fruits, vegetables and occasionally meat or chicken. If you are unaccustomed to such a diet you may consider bringing snacks such as granola bars and canned fruit. However, Doña Luz works hard and takes pride in her cooking, performing miracles with limited supplies. Remember that Peten is not good agricultural land. Most food is shipped in and is not of the same quality and low price as in other parts of the country.

Although we do not offer a separate diet, we do get a lot of vegetarians at the Rescue Center and Doña Luz is accustomed to offering a variety of alternative bean and vegetable dishes.



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About personal hygiene

The Volunteer House is equipped with full “western” bathrooms with showers, sinks and flush toilets. Please try not to waste water as it must be pumped in from the lake.

In the past, we have had certain volunteers who - perhaps feeling that their unique body odor would allow them to more closely commune with their friends in the animal kingdom - have gone days without bathing. However that unique odor sometimes becomes offensive to certain members of the species *Homo sapiens* (especially the sub-species “latinus”) since everyone must use the same facilities and work and live together closely. Please try to keep yourself and your clothes as clean as possible. Laundry service is available at the Center, or you can wash your clothes at the “pila”.

Other responsibilities include:

1. Cleaning up after yourself (i.e. Wash your own dishes. Doña Juana has enough work to do!)
2. Making sure you put the tools and equipment you use back in its proper place after each use. It is a hassle to constantly have to look for tools strewn throughout the compound.
3. Picking up any garbage you see and not creating any yourself (especially cigarette butts!)
4. Keeping the volunteer house clean (sweeping the floor, throwing out the garbage, cleaning the shower and toilet, etc.) Don't bring food into the volunteer house as it attracts rats!

How to get there

The Rescue Center is near Flores, Peten, a 45 minute flight or 7 hour bus ride from Guatemala City. To get to the Rescue Center in Peten, take a bus with Linea Dorada, (Tel: 2415-8899, 10A 10-03 Zona 1, 8hrs, <http://tikalmayanworld.com/services/horarios.htm>) Luxury buses leave Guatemala City at @10AM and 9PM and cost Q150-190. Flores can also be accessed easily from Cancun and Belize. TACA airlines, (Tel: 2470-8222, 2279-8222, 45 minutes) flies from Guatemala City to Flores for \$160-\$280 depending on the season. The free ARCAS boat leaves for the Rescue Center at 8AM & 3:30PM Monday through Friday from the arch on the causeway that connects Santa Elena with Flores. Please confirm with the staff in Peten or check in at the café at the arch as boat times may change. Apart from the free ARCAS boat, you can rent a tourist boat going to the Petencito Zoo for Q20-40. The Rescue Center is also accessible by car taking the dirt road 18kms past the Villa Maya Hotel.

Staying in contact with friends and family

There is cell phone and internet service at the Rescue Center. ARCAS has a courier service PO Box in Miami (Section 717, PO Box 52-7270, Miami, FL 33152-7270). However, this service is very expensive, so you make use of this we will have to charge you for it. Regular letters cost \$2.50 - \$4.00 while larger packages are much more expensive. In general, try to discourage your family from sending “care packages” or if they do, have them send it to our street address.

2.2.4 Other helpful info

Climate

Guatemala has been referred to as the land of eternal spring. However, for the Peten this can be misleading. It can often be quite hot and humid, equivalent to steamy summers' day, though the jungle surrounding the Rescue Center tends to keep things tolerable. Here is a quick summary of the weather conditions;

Rainiest months: July to December
Coldest months: December to February
(everything's relative)
Hottest months: April to June



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The humidity is high most of the year with the exception of the cooler months. In the hotter months, be prepared with lots of insect repellent, tropical antihistamines and lightweight, quick drying clothing. In Dec-Feb, it can be cooler at night and we recommend that you bring a light sleeping bag, blanket or sweater.

Health

There is malaria and dengue fever in the Peten, but with usual precautions such as repellent and mosquito nets, you shouldn't expect to catch either and most travelers don't bring prophylactic medicine. In any case, you should check with your doctor or an international health clinic before coming to Guatemala. There is a hospital and several private clinics in the Flores-Santa Elena-San Benito area. You should bring antibiotic cream and repellent. The volunteer dormitories are screened in, but many volunteers bring their own mosquito net as an added precaution.

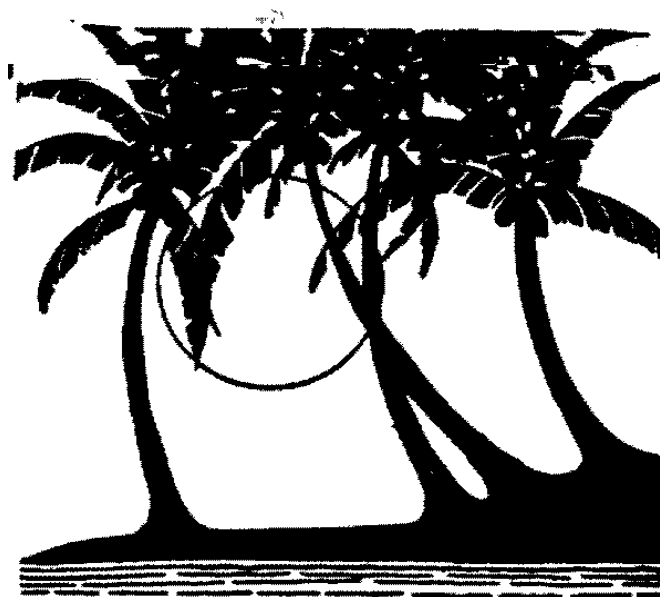
2.3 Volunteering At Parque Hawaii

In addition to its volunteer program at the Wild Animal Rescue Center in Peten, ARCAS hosts volunteers at its Sea Turtle, Crocodile and Mangrove Conservation Project near the town of Hawaii 8kms east of the main Pacific resort town of Monterrico. (In case you're wondering, it's called Hawaii because the founding father of the town when he first arrived 50 years ago saw a postcard of the island of Hawaii and saw some similarities.)

In terms of atmosphere, Hawaii and Peten couldn't be more different. While Peten is humid and heavily forested, the Hawaii area is breezier, more open and more heavily deforested. While the Peten region is experiencing heavy immigration of land squatters and other associated problems, the south coast - being the breadbasket of Guatemala - has been settled for a much longer time. There is no Caribbean influence on the south coast, only the "ranchero" cowboy style mixed with the influences of resort tourism.

2.3.1 Background & Geography

Guatemala's Pacific coast stretches 250 kms between Mexico and El Salvador and is made up of volcanic plains on which some of Guatemala's richest agricultural lands and largest farms lie. Because of this intense agricultural activity, the coastal plain - unlike the Peten region whose forests have remained relatively healthy - has lost much of its original biodiversity. However, the coastal fringe - including mangrove-lined canals, lagoons and lakes - has remained relatively intact, home to a rich variety of marine and bird life.



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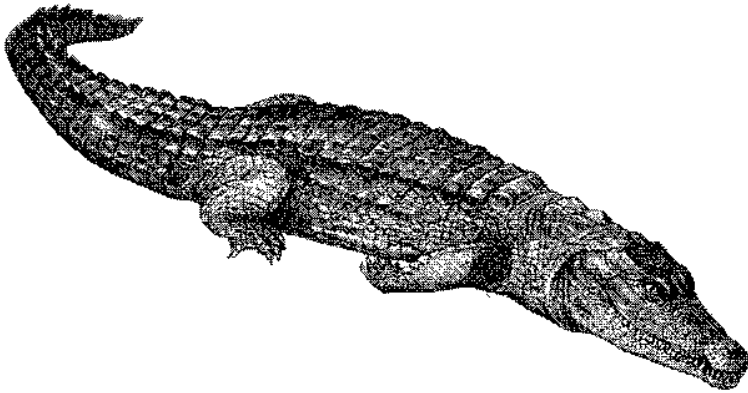
The Hawaii Program

In 1993, ARCAS initiated its conservation activities in the Hawaii area primarily as an attempt to counteract threats to leatherback and olive ridley turtle populations by overharvesting by local egg collectors. Despite their endangered status, virtually all sea turtle nests in Guatemala are harvested and the eggs sold to restaurants or in markets. Turtle eggs are popular in Guatemala, as in other parts of Central America, as a supposed aphrodisiac; clearly not a basic need given a population growth rate of nearly 3%.

ARCAS's base of activities on the south coast is the Hawaii Park, a 3-hectare park on the beach, 2kms west of the village of Hawaii and 7kms east of the resort town of Monterrico. ARCAS is also in negotiations with the Guatemalan government to establish a 4000 hectare protected area centered on the mangrove wetlands of the area.

The Hawaii ecosystem consists of mangrove-lined estuaries, dry tropical forests and volcanic sand beaches. Beaches are of the "high-energy" type characteristic of the pacific coast: relatively steep and narrow with strong waves and tides and no reefs. The climate in the Hawaii area is hot with a rainy season between June and October. Days are hot, but breezy; nights calm and warm with occasional thunderstorms.

Under its Hawaii Program, ARCAS solicits donations of sea turtle eggs from local collectors and then reburies the eggs in protected hatcheries. After an incubation period of roughly 50 days, the hatchlings are released into the sea. When ARCAS took over the Hawaii Hatchery in 1993, only 4,000 - 8,000 eggs per year were being collected. In the last few years, the Hawaii Hatchery has collected over 40,000 eggs, usually representing over one third of all the eggs collected by the rest of the @21 hatcheries in the country.



Another important aspect of ARCAS's Hawaii Program is environmental education. ARCAS staff and volunteers offer classes, develop teaching materials and conduct beach clean ups and hatchling releases "races" with local school children. They also manage school hatcheries where the students themselves collect turtle eggs, bury them and then release the hatchlings when they are born. The aim of all these activities is to teach local children the need to conserve the natural resources on which they depend. In addition to sea turtle conservation and environmental education, ARCAS carries out crocodile breeding, mangrove reforestation and health activities in the Hawaii area.

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Facilities

The Hawaii Park includes a large central rancho with kitchen, office/library, second-story dormitory, a large, open common area with hammocks and tables, and a western toilet and shower. There are also two small visitor's house where volunteers are welcomed to sleep. Nearby are the crocodile and iguana reproduction pens and the well. Eighty meters away, just behind the coastal dunes, is the main turtle hatchery and holding tanks and a lookout tower. There is 110 AC/DC electricity available. Accommodations are rustic but comfortable, and with the ocean breeze and roar of the surf in the distance, make for the ideal atmosphere to relieve the stress of modern life and take in the wonders of the Pacific Ocean.

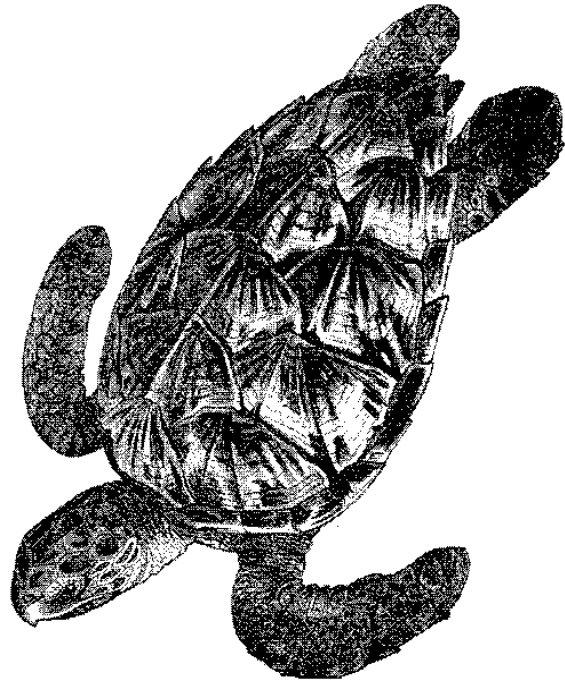
2.3.2 Sea Turtle Season

The olive ridley nesting season corresponds with the rainy season - roughly June to October - with peaks in August and September although solitary nesters arrive throughout the year. There are no "arribadas" at Hawaii, but the olive ridleys prefer high winds from the southeast and will even nest during the daytime with such wind. They also prefer dark nights and a setting or rising moon.

Along the roughly 16kms of coastline that ARCAS monitors, frequency of nesting is 15-25 nests per night during the peak of nesting season. Leatherbacks nest in November and December but are unfortunately going extinct in the Pacific, and for the last several years we have received 0-2 nests per year.

Turtle eggs are prized by local populations as a supplement to their income and diets. On nights that the turtles come to lay their eggs, competition for nests is intense and it is extremely rare that a nest escapes plunder. Turtle eggs are sold to local buyers who transport them to restaurants and markets in the capital and other large towns.

Under a system established in the 1980's, egg collectors are allowed to commercialize sea turtle eggs as long they contribute 20% of the eggs harvested to one of the 14 hatcheries in Guatemala. Nests are usually between 60 and 140 eggs with an average of 84 eggs. Egg collectors who donate are given receipts which gives them the right to sell the rest of the nest. Donated eggs are then buried in hatcheries and after incubation are released into the sea.



2.3.3 Volunteer activities

Since 1993, the Hawaii Program has hosted over 150 international and Guatemalan volunteers per year. Activities typically carried out by volunteers include:

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1. Turtle Conservation (Egg Collection and Hatchery Management)

During the egg-laying season (June-October) volunteers are formed into patrols and spend nights walking the beach in search of nesting turtles. Once the turtle is sighted and “claimed”, volunteers wait until it has finished laying, collect the eggs, transfer and then bury them in the hatchery. Volunteers also receive voluntary donations from local egg collectors and carry them to the hatchery. Once the eggs have been buried in the hatchery, the nest is marked and recorded in a log.

Once the eggs begin hatching (mid-July to December), volunteers assist in releasing the hatchlings and excavating the nests to determine the hatchling success rate, usually over 90% in Hawaii. Hatchlings should be released at night or early or late in the day. They should NEVER be released during the heat of the day as there are more predators and the midday sun will dehydrate them. If necessary, they can be held in shaded holding pens until the sun goes down.

Hatchlings should be released at the same level of the beach where a turtle would nest (somewhere above the high-tide line) and be allowed to crawl unhindered to the surf in order that they become imprinted on their place of birth and return to the same spot to nest. Also, they should be released at different points on the beach so that finned predators off-shore don't get used to a free meal.

Basic research in turtle biology is also conducted at Hawaii including measuring nest and sand temperatures, conducting nightly crawl counts and monitoring and recording hatchling success rates. Volunteers take part in these research activities. We are also open to any other research ideas you may have.

2. Environmental education

Volunteers assist in conducting environmental education activities in area schools, including teaching classes, developing curriculum, conducting beach clean ups and operating school hatcheries. One of our volunteers established a “Green English” course where he used ecological themes to teach English.

3. Mangrove reforestation

The mangrove forests lining the Chiquimulilla Canal are under constant threat from illegal loggers and fires caused by the cleaning of pasture for cattle. Volunteers assist in mangrove reforestation activities carried out in conjunction with local schools and conservation groups.

4. Caiman and iguana breeding

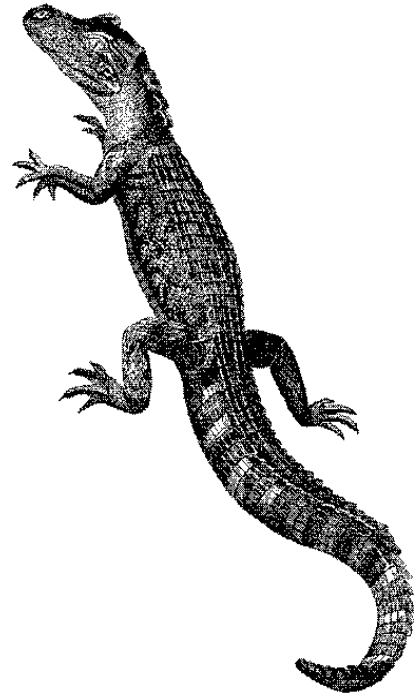
Crocodiles and other animals were once abundant in the south coast, but are rapidly disappearing due to hunting and loss of habitat. Crocodiles and iguanas are captive bred on the grounds of the Hawaii Park and offspring are released into the nearby mangrove forests. Volunteers assist in the feeding and care of breeding caimans and iguanas.

5. Community Projects

Successful sea turtle conservation efforts in other parts of the world have shown the need to work closely with local communities. This is especially true in a country like Guatemala where the resources and/or will on the part of the authorities are lacking to impose more stringent conservation measures.

The ARCAS Hawaii project is an integrated project that, while attempting to conserve the flora and fauna of the area also tries to offer local residents economic alternatives to improve the quality of their lives.

In addition to its educational activities, ARCAS has carried out health projects (construction of latrines and wells) and offered training in the preservation and processing of fish products and eco-tourism. Volunteers and interns have assisted in these activities.



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2.3.4 Hawaii volunteer guidelines

Food

Volunteers at Parque Hawaii are responsible for their own food. They can either prepare it for themselves in the kitchen or eat with local families at roughly Q20 (\$2.50) per meal. Local stores carry basic food items such as beans, corn, spaghetti, sauce, eggs, tomatoes, onions, dried milk, sodas, beer, bread and soup mixes. However, there is a limited supply of fresh fruits and vegetables and you may want to buy these and other items in the nearby towns of Monterrico, Taxisco or Chiquimulilla. Fish and shrimp are of course available on a seasonal basis.

Transportation

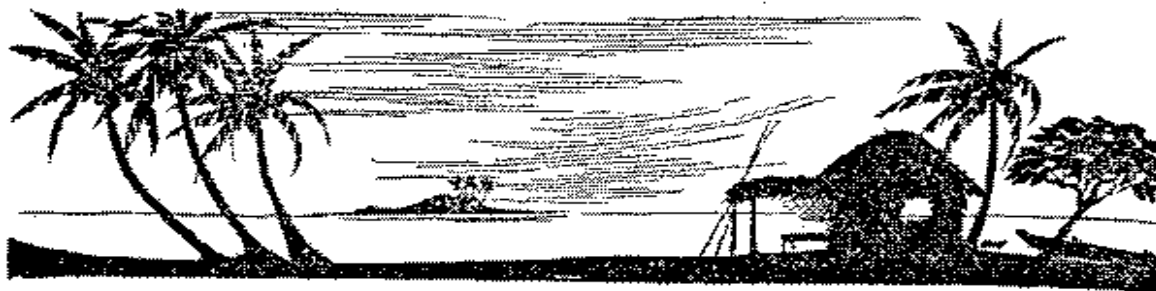
Because of our limited resources, ARCAS cannot offer airport pick-up or transportation services to Hawaii. The volunteer must be prepared to cover his/her own travel expenses both to the Peten Rescue Center and to Hawaii. Usually, volunteers contact us before they come to Guatemala by e-mail. Once in Guatemala, they call us and if we are going down to the Hawaii Project at that time and are willing to contribute to gas, they can hitch a ride with us. Otherwise, they have to find their own way down. You can just "show up" in both Peten and Hawaii, but we do occasionally fill up, especially during the peak season of June - August.

How to get to Hawaii

Take the Chiquimulilla-Taxisco "Cubanita" bus or the "Pullman" bus that goes to the Salvadoran border from El Trebol, Zona 11 or La Terminal de Buses, Zona 4 in Guatemala City. Get off in Taxisco (Cheese capital of Guatemala!). Transfer to the bus that goes to La Avellana, the dock on the Chiquimulilla Canal where ferries for Monterrico leave. The entire trip to La Avellana from Guatemala City takes about 3 1/2 hours and costs about Q25.00. Most buses leave in the morning. Don't start your trip after midday.

You can also take a tourist shuttle van to Monterrico (roughly \$10) from Guatemala City or Antigua. Check any local travel agency for the availability of these shuttles. They are more expensive, but unless you want the "chicken bus" experience, well worth it. STA and Don Quijote travel run daily shuttles leaving from Antigua at 8AM arriving in Monterrico @ 10.30 for \$15. They will pick you up anywhere in Antigua. STA: 7834-8581, - 1493. Don Quijote: 5415-8500, 5342-6091, 5673-3435, 5611-5670 **NOTE:** Make sure when you are getting on the shuttle or on any reserved taxi, that the driver has your name and destination. There have been cases of tourists getting into unofficial taxis and then later being robbed. Only taxis from travel agencies are registered with the Guatemalan Tourist Institute, INGUAT.

From Monterrico, you can walk or hitch a ride to "Parque Hawaii", 8kms away and 1km before the village of Hawaii. Walking is easiest at low tide and in the early morning or late afternoon. Carry lots of water. There is a public bus (Q2) and pick-up taxis (Q40) between Monterrico and Hawaii. You can also rent a boat from La Avellana to Hawaii for Q150: expensive, but a beautiful 45 minute boat ride through the mangroves. Tell them to let you off at "Parque Hawaii".



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Language

Although it is not a pre-requisite, to be comfortable, volunteers at the Hawaii project should be able to speak at least a basic level of Spanish in order to be able to communicate effectively with park workers and locals. If you want to study Spanish while you are volunteering, there are local teachers available and a Spanish language school in Monterrico (espanolmonterrico@yahoo.com).

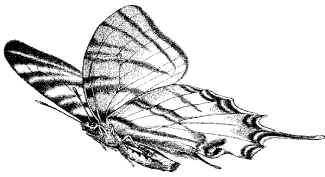
Seasons

Although the turtle egg-laying and hatching season is from June to November and is the most active times at the center, volunteers are needed at all times. Mangrove reforestation activities are carried out December - February. For those interested in environmental education, the Guatemalan school year lasts from January to October.

Cost

The volunteer fee covers lodging, including bed, sheets, shower, toilet, lockers, drinking water and kitchen. The dormitory is screened in, but some volunteers hang mosquitos nets as well as an added precaution. ARCAS can also arrange for home stays with area families.

Please contact us for updated volunteer fees and information.



2.3.5 Other helpful information

Climate

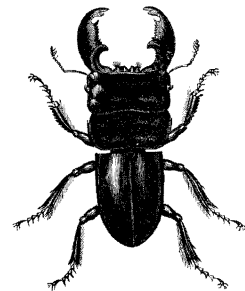
The south coast climate is drier than that of Peten, but equally hot. It is also characterized by a more sharply defined rainy/dry season. During the dry season - December to April - it rarely rains. The rainy season on the south coast is also not as heavy as in other parts of Guatemala with daily precipitation falling primarily between the hours of 4 and 7 PM. The turtle laying and hatching season is during the rainy season, with the heaviest activity in August and September. The hot months are March-April. The weather in November, December and January is glorious: clear, breezy and cool with clear, starry skies full of meteor showers at night.

Health

There is malaria and dengue fever on the south coast as in Peten, but with usual precautions such as repellent and mosquito nets, you shouldn't expect to catch either and there is no need to bring prophylactic medicine. There is a Health Clinic with a full-time nurse in Hawaii and a hospital one hour away. The water supply is good in the Hawaii area, but you may want to bring treatment tablets for other parts of the country, although bottled water is generally available.

Insects

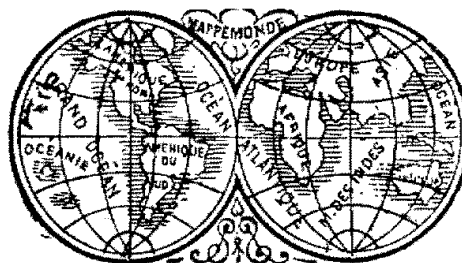
Insects can be a problem in Hawaii, so come prepared, especially for the peak mosquito hours just after sunset. The dormitories are screened, but you should bring your own supply of repellent. Long pants, long-sleeved shirts and socks are recommended in the evening.



3. GENERAL INFORMACION ABOUT GUATEMALA

Guatemala

Capital City	Guatemala city
Population	13,000,000
National bird	Resplendent Quetzal
National Tree	Ceiba



3.1 Culture

Over half of the population of Guatemala can claim “indigenous” ancestry. The Indians of today are descendants of the Mayan society that thrived in this region 1000 years or more BC. The Mayan civilization created vast cities and enormous aesthetic temples. Each city/department was ruled by a king that became the religious, social and political mentor for the people. The Mayan had a very sophisticated system of mathematics and astronomy that was used as the basis of their religion. The indigenous of today are very hard working and proud people that still retain many of their old traditions. In some parts of the country many still dress in the colorful way of their ancestors and speak only their native language. The other large percentage of the population of Guatemala is Ladinos. The Ladinos are a mix between Indigenous and Spanish cultures. However, the term can also refer to Indians that have left their ancestral ways and adopted a more modern culture.

Guatemalans live modestly and at times in very rustic conditions. Many homes use a type of palm frond to create a thatched roof. Nonetheless, they are very proud people that tend to work long hard hours, all days of the week.

In the Peten region, where the ARCAS Rescue Center is located, many of the people make a living off the forest or through tourism. The primary forest products of the Peten include *chicle* –a sap from a tree used to make chewing gum; xate a leafy palm used in floral arrangements; allspice and timber, which unfortunately is rapidly disappearing.

The Peten region and the UN-declared Mayan Biosphere Reserve are a focus of intense international attention to protect the unique cultural and natural resources remaining in this the largest forested area in the Americas after the Amazon basin. Working there, you will be able to see the mish-mash of conflicting interest at work, including illegal loggers, drug traffickers, the army, illegal immigrants, animal traffickers and conservationists, and you will come to appreciate the difficulty of working in such a politically charged atmosphere.

The south coast of Guatemala, on the other hand, is often seen as environmentally “lost” and suffers from the neglect of international and Guatemalan conservation organizations. However, the coastal mangrove forests and their wealth of plant and animal life –though under constant threat from shrimp farms, cattle ranches and pollution runoff - are still relatively intact.

Working in Hawaii, you will come to realize that community participation in conservation is not a luxury or simply an idea dreamed up by liberal academics, but a necessity. You will also see that conservation is not merely a question of stringing fences and keeping people out of protected areas, but of taking an integrated approach that attempts to conserve natural resources while also meeting the very real need of local inhabitants.

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3.2 Preparations for your trip

Before you come to Guatemala there are a few things that you should take care of or know about ahead of time.

Health and medicine

You should check with your local doctor or international clinic about getting the necessary immunizations and prophylactic medication to come to Guatemala. The most common insect-borne diseases in Guatemala are malaria, dengue fever, yellow fever, chagas disease and typhus. Other diseases to be concerned with are: giardia, dysentery, cholera, viral gastroenteritis, hepatitis B, typhoid and parasites. Although these can be easily avoided with the usual precautions (Don't eat street food. Don't Drink untreated well water...) all it takes is an illness to upset your enjoyment of your experience in Guatemala and at ARCAS.

If you want in-depth information on tropical diseases and what immunizations and medications you should have, you can write to IAMAT (International Association for Medical Assistance to Travelers) at the following addresses:

- 40 Regal Road, Guelph, Ontario N1K 1B5 Canada
- 417 Center Street, Lewiston, New York, 14092 U.S.A.

Common hygiene products (shampoo, soap, deodorant, etc) are available in Guatemala at reasonable costs. However, specialty products can be more expensive and/or difficult to find. Products such as sunblock, repellent, contraceptives, and of course, personal prescriptions should be purchased before you leave and in adequate quantities for your stay.

Visas

Citizens of most countries around the world **do not** need a visa to enter Guatemala. On arrival in the country, the immigration officer gives you a 90-day visa at the airport and that visa can be renewed for an additional 90 days in country, giving you a total of 6 months before you have to cross the border into Belize or Mexico to renew it. Regardless, you should check with your local Guatemalan consulate before leaving for your trip.

Currency

You should travel with some U.S. dollars in cash and some in travelers checks. You can change dollars into quetzals in the airport or at any bank. There is not a significant difference between the black market and official exchange rate and the quetzal is a relatively stable currency. Credit and debit cards are also commonly used in Guatemala, and ATM machines are readily available in Flores, Antigua, Monterrico and other touristic centers.

During your stay at the Rescue Center, you will obviously not have to pay for much more than the volunteer fee while at Hawaii you will also need to cover your food costs (@\$5/day) . If you plan on traveling around the country, depending on your expectations, you should budget yourself for \$400- \$800 per month.

If you want more information about Guatemala, contact the Guatemalan Institute of Tourism (INGUAT) at <http://www.visitguatemala.com/web/index.php?lang=english> The Lonely Planet Guide for Guatemala and Central America is also an invaluable tool for the backpack tourist.

Insurance and Liability

Although we have had no illnesses or major injuries in our 20 years of hosting volunteers, we ask volunteers to sign Waiver of Responsibility forms. We simply cannot afford to be held responsible for any accidents that may occur. We recommend that volunteers take out health and personal property insurance while they are volunteering with us, but we leave that decision up to them.

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Security

Guatemala is a relatively safe place to visit, as long as you take basic precautions and use common sense. Both project sites - Peten and Hawaii - are far from the major cities where much of the crime takes place these days. Peten, especially Flores (the closest city) is a tourist haven that is safe, slow-paced and amiable although in recent years there has been an increase crime.

Inter-city travels should be done only during the day. If you plan to take the bus to Hawaii, leave before noon, In Guatemala City and to a lesser extent, Antigua, avoid walking alone late at night. Check with the local tourist board and your hotel manager about local conditions. When traveling on local buses, keep an eye on your backpack. Don't wear flashy jewelry in downtown Guatemala City and when taking day trips or visiting tourist sites, take only the amount of money you will need for the day. In general, it's a good idea to rely as much as possible on credit and debit cards and try not to carry a lot of cash with you.

If you are concerned about the safety of traveling in Guatemala, call the US Department of States Citizens Emergency Center at (202) 647-5225. They also have an internet site. They will inform you of the current conditions.



What to bring

1. Flashlight or 2
2. Mosquito net
3. Suncreme
4. Sunglasses
5. Sun hat
6. Candles
7. Insect repellent
8. Light, quick-drying clothes
9. A light sweater
10. Rain gear
11. (For Hawaii) Teva-type sandals
12. A small padlock

Note: ARCAS does have a small but diverse library of English books at your disposal. The books range from conservation and animal care to general reading and popular literature.

The ARCAS wishlist

ARCAS is a non-profit organization working on a shoestring budget. We operate with the generosity of other organizations, companies and individuals like yourself. If you are coming to volunteer with us and have access to donated supplies and equipment that you could carry down with you, we'd really appreciate your help. Below is a short wishlist of some of the supplies and equipment we are in need of. If you have access to veterinary medical supplies which you'd like to donate, please let us know and we'll send you a list of some of the medicines we most need.

- Books, posters and other educational materials for our eco-libraries. (Spanish-language preferable, but any will do)
- Clinical and veterinary supplies
- Office supplies
- Tents
- Flashlights
- Medical supplies (repellent, Antibiotic cr me, vitamins, bandages, tape...)
- Used office and computer equipment (Fax, computer, copier, scissors, tape, White Out...) (Computer equipment should be fairly up-to-date though)

PLEASE CONTACT US BEFORE YOU BRING ANY OF THESE DONATIONS DOWN.



**Asociación Rescate y Conservación de Vida Silvestre
Wildlife Rescue and Conservation Association**

Intl Mail Address: Section 717, PO Box 52-7270, Miami, FL 33152-7270 USA

Street Address: Km. 30 Calle Hillary Lote 6 Casa Villa Conchita, San Lucas Sacatepequez,
Guatemala

Telephone: (502)7830-1374 (Phone/Fax), 7830-4273 (Phone/Fax)

E-mail: arcasguatemala@gmail.com

Website: www.arcasguatemala.com