

A. Title of Proposed Project

AZACUANES: Strengthening research and ecotourism in migratory raptors in Guatemala and Central America

B. Contact information

- Name of Firm: Wildlife Rescue and Conservation Association (ARCAS)
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- Website: www.arcasguatemala.com

C. Project Summary

AZACUANES: Strengthening research and ecotourism in migratory raptors in Guatemala and Central America

Twice a year, an estimated 10 million migratory raptors and other birds cross Guatemala, heading south in mid-October, and north in March-April. Although this phenomenon is known locally at the *Azacuanes*, both in Guatemala and the rest of Central America it is a phenomenon that for years has been underappreciated and unexploited. Ecotourism gives conservationists and local communities their most promising hope in saving natural resources as they face destructive practices such as industrial agriculture, deforestation and pollution. Under this project, the Wildlife Rescue and Conservation Association (ARCAS) will carry out two activities in support of migratory bird-based research and ecotourism in the region: environmental education and awareness-raising in local schools and municipalities; and a five-day regional training workshop in migratory raptors and birdwatching ecotourism. The project will be based in Chiquimulilla, Guatemala and will foment a migratory raptor-based ecotourism in that area, but will also develop a network of Azacuan-based conservationists, researchers and ecotour operators on a regional level.

Resumen en español

AZACUANES: Fortaleciendo investigación e ecoturismo con rapaces migratorias en Guatemala y America Central

Dos veces al año, un estimado 10 millones de aves rapaces migratorias y otras aves cruzan Guatemala, dirigiéndose al sur durante septiembre y octubre con el fin de las lluvias, y al norte en marzo y abril. Aunque este fenómeno sea conocido localmente como los "Azacuanes", en Guatemala y el resto de América Central es una actividad que ha sido durante años menos apreciado e inexplorado para fines turísticos. El ecoturismo da a conservacionistas y residentes rurales una mayor esperanza para conservar los recursos naturales ante prácticas destructivas como agricultura industrial, la deforestación y la contaminación. Bajo este proyecto, la Asociación Rescate y Conservación de Vida Silvestre (ARCAS) llevará a cabo dos actividades en apoyo a la investigación y ecoturismo de rapaces migratorias en la región: educación y concientización ambiental en escuelas y municipios locales; y un taller regional de capacitación de cinco días en investigación y ecoturismo con rapaces migratorias. El proyecto

tendrá base en Chiquimulilla, Guatemala y procurará fomentar el aviturismo de rapaces en esa área, pero también tiene el objetivo de desarrollar una red de investigadores, conservacionistas y operadores avituristicos en toda América Central.

D. Project description

D.1 Background

The Pacific coastal plain and highlands of Guatemala are characterized by a Mediterranean climate with a well-defined rainy and dry season. Typically, the rains begin in mid-May and finish in mid-October. As the clouds part and the soil dries up in October, the blue sky reveals thousands of hawks, vultures, ospreys, flycatchers and gulls soaring south. Swainson's hawks, Broad-winged hawks and Turkey vultures rise like tornadoes on thermals over the coastal plain, and then in unison begin planing effortlessly south following the volcanic chain. Closer to the coast, scissor-tailed flycatchers fly individually just over the treetops, stopping to rest on powerlines. Laughing gulls rise in raucous flocks over the mangroves, and terns form "V"s flying just over the ocean waves. This spectacle is one referred to colloquially as the "Azacuanes" and is a traditional sign that the rains are over. Although it has its place in local folklore, the Azacuanes is a spectacle that is in general underappreciated, poorly understood and touristically unexploited in Guatemala, this at a time when birdwatching and ecotourism as a whole is a growing sector.

The Wildlife Rescue and Conservation Association (ARCAS) is a Guatemalan NGO established in 1989 with the goal of conserving Guatemalan wildlife and its habitat. Its first and still biggest project is its Wildlife Rescue and Rehabilitation Center in the northern Peten region of the country where it receives 300-600 confiscated animals of 40+ species per year. The ARCAS Rescue Center is the largest and most successful rescue center in the Americas and has been recognized as a model for the rest of the region, and its staff participates in efforts to establish rescue centers and anti-trafficking networks in other parts of the Americas. In 1995, ARCAS initiated its program on the Pacific coast of Guatemala when it took over the administration of the Hawaii sea turtle hatchery, which it has since developed into the most productive of the 20+ hatcheries in the country. ARCAS is also lobbying for the establishment of the 4,000+ hectare Hawaii Protected Area (HPA) focused on the local mangrove and coastal ecosystems, one of only two relatively healthy areas of mangrove on the Pacific coast of Guatemala. With the support of the Dutch Committee of the IUCN and Disney, in 2007 it purchased the 25 hectare El Salado Farm which it is reforesting and developing into a private bird watching reserve. One of the secrets to ARCAS's success during the last 20 years has been its paid volunteer and ecotourism program which accounts for approximately 60% of its overall budget and has granted it a degree of financial self-sustainability, allowing it to survive economic crises and changes in donor priorities when many other NGOs have closed.

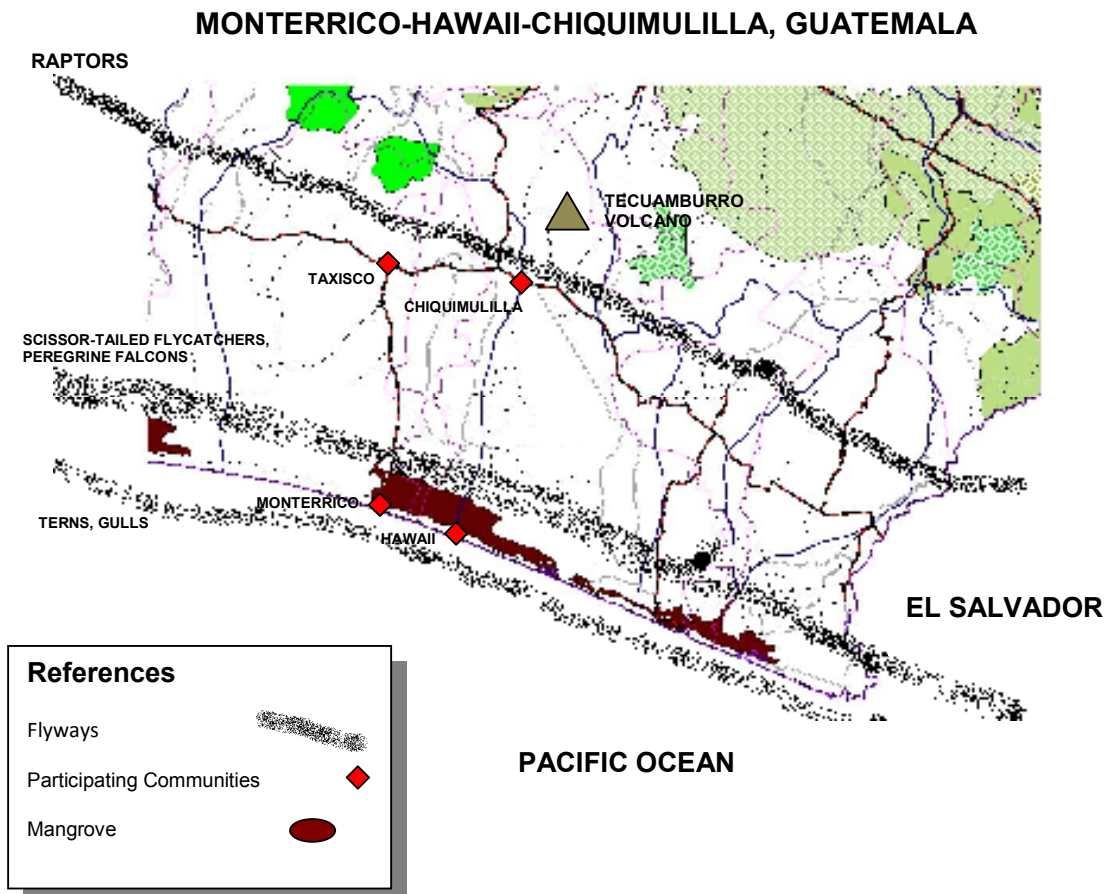
In the course of the consultative workshops held during the development of the Master Plan for the sustainable management of the Hawaii area, local residents identified ecotourism as holding the greatest long-term potential for offering an economic alternative to the environmentally damaging extractive practices of the past; practices that include logging of mangroves, sea turtle egg poaching, hunting and unsustainable fishing techniques. Together with local communities, ARCAS has been developing a sustainable tourism network, including the formation of youth groups and tourism committees, training in ecotourism and small business development, and promotion of the area as an ecotouristic destination. In 2007, it initiated its migratory raptor program, sending its Education Department Director, Manuel

Gonzalez to the Hawk Mountain Conservation Science Internship Program and initiating its raptor count and raptor birdwatching program in the Chiquimulilla area.

D.2 Project location

This project will be carried out in Chiquimulilla, Santa Rosa (14°04'51.82 N, 90°22'55.9 W, altitude, 280M) on the Pacific coast of Guatemala, an area where the proximity of the volcanic ridge to the coast forms a natural funnel which facilitates counting and observation of migratory raptors. Migrants in the area move south-east along the ridge en route between Pacific coast Mexico (Chiapas) and north-west El Salvador. This area is considered by Bildstein and Zalles (2001) to be part of the Mesoamerican Land Corridor, which in turn is part of the Trans-American Flyway. This area also belongs to the Mesoamerica Hotspot according to Conservation International.

The Chiquimulilla area is strategically important being just 50 miles from the Salvadoran border with connectivity to conservation efforts in the eastern part of that country, especially in the El Imposible and Barra Santiago areas. It also forms part of a nascent ecotouristic and conservationist corridor made up of the Hawaii and Monterrico protected areas - which together account for roughly 8,000 hectares of mangrove and dry tropical forest, the ARCAS El Salado private reserve, the Ercho Park private reserve and the Tecuamburro Volcano.



D.3. Project Objectives and Goals

This project has as its overriding objective the conservation of the migratory raptors and other birds that fly over Guatemala and Central America by raising-awareness with local decision-makers and tour operators about their biological importance and ecotourism potential and by strengthening information exchange with other conservationists and tour operators in the region. It hopes to strengthen human resources and create a regional network in order to carry out raptor migration research and foment a thriving avitourism industry in the future. The project will achieve these objectives by carrying out the following two activities:

1. Environmental education and awareness-raising in strategically important communities along the route of the Azacuanes in Guatemala. **Goals/output:** 1024 Guatemalan elementary and middle school students and members of local municipalities participate in environmental education and awareness-raising activities about the Azacuanes. Development and printing of Azacuan educational booklet, poster and pamphlet.
2. A five-day training workshop to share information among migratory raptor specialists and birdwatching tour operators in Central and North America, exploring ways to better exploit the Azacuanes for their ecotourism potential, and raising awareness among local municipalities and tour operators about this potential. **Goals/output:** 10 regional and 15 national participants receive training on migratory raptors and establish a network for better information-gathering, policy-reform and ecotourism promotion. Workshop report documenting raptor bird counts and research. Press release. Media coverage. Coverage in Alianzas/ORMA network. A Latin American network of raptor conservationists and ecotour operators will be formed and will explore the possibility of establishing a LISTSERV or other internet network. Incorporation of data presented at workshop into the Hawkwatch database. Regional workshop participants will be presented with training materials and will be asked to replicate this workshop in their home countries.

D.4. Rationale

Diurnal raptor migration (Order Falconiformes) has been studied extensively for many years in the United States, Canada and more recently in Veracruz, Mexico. Unfortunately, in Central America, and especially Guatemala, few bird counts have been performed and little is known about their movements. (Hidalgo, 1995; Bildstein and Zalles, 2001¹) However, what little research that has been done indicates that the Chiquimulilla area is an important watch site

¹ Hidalgo, C., et al, 1995. Migracion de Falconiformes en Costa Rica. HMANA Migration Studies 21(1):10-13.; Bildstein, K. and Zalles, J. 2001. Raptor Migration along the Mesoamerican Land Corridor. In: Hawk Watching in the Americas. Hawk Migration Association of North America, North Whales, Pennsylvania. Pp. 119-141.

for migratory raptors. Heinrichs et al. reported a total of 239,282 raptors of 14 species from October 23rd to November 3rd, 2005. Gonzalez reported 451,700 migrants during the month of October, 2008. The following is a list of the total number of raptors he reported by species.

Common name	Latin name	Total
Turkey Vulture	<i>Cathartes aura</i>	204,302
Osprey	<i>Pandion haliaetus</i>	7
Hook-billed Kite	<i>Chondrohierax uncinatus</i>	1
Northern Harrier	<i>Circus cyaneus</i>	2
Sharp-shinned Hawk	<i>Accipiter striatus</i>	7
Coopers Hawk	<i>A. cooperii</i>	4
Broad-winged Hawk	<i>Buteo platypterus</i>	4,402
Short-tailed Hawk	<i>B. brachyurus</i>	1
Swainsons Hawk	<i>B. swainsoni</i>	199,576
Zone-tailed Hawk	<i>B. albonotatus</i>	4
American Kestrel	<i>Falco sparverius</i>	5
Peregrine Falcon	<i>F. peregrinus</i>	2
Unidentified		43387
TOTAL		451,700

Gonzalez, M., ARCAS, 2008

The monitoring of raptors and other migratory birds, particularly when conducted in conjunction with other conservation research and education activities and across large geographic areas, offers potential for assessing which human activities influence local and regional ecosystem processes. When combined and coordinated with other conservation efforts, they make substantial contributions toward developing a better understanding and appreciation of the ecosystems upon which both we and raptors depend. Although there is excellent research being carried out throughout Latin America, there is an aversion to documenting this work in writing. One of the principal outputs of this project is the creation of a Latin American network of raptor conservationists and the incorporation of their research data into regional research and conservation efforts such as Hawkwatch and the Alianzas Project. These raptor conservation and research activities will also be incorporated into ARCAS's broader monitoring efforts in the Hawaii-Chiquimulilla area, including the regulation of the rapidly-expanding sugar cane industry, overfishing in coastal waters (particularly by shrimp trawlers) and sea turtle population monitoring; monitoring activities which ARCAS has been carrying out since 1997.

D.5. Complementarities, dissemination of project findings and support to regional migratory raptor conservation efforts

Since 2001, ARCAS has participated in the Alianzas Project, a project administered by the Regional Office of the IUCN (ORMA) with funding from the Norwegian development agency, NORAD, operating in three binational sites in Central America. The Guatemala-El Salvador site of the project stretches from Barra Santiago in El Salvador in the east to Monterrico, Guatemala in the west. The objective of Alianzas is to build capacity in community organizations, NGOs and municipalities so that local residents can begin managing their own natural resources while at the same time improving their standard of living. Alianzas will be providing counterpart funding for environmental education and awareness-raising activities proposed in this project and the results of the project will be disseminated throughout the Alianzas/ORMA network (See Alianzas website:

http://www.iucn.org/es/sobre/union/secretaria/oficinas/mesoamerica/nuestro_trabajo/unidad_de_equidad_social/programa_alianzas/).

In addition to making use of the Alianzas network, the project will link with and compare monitoring data with other watch sites, conservation projects and ecotourism efforts in North, Central and South America. As mentioned above, one of the main reasons for holding this workshop is the data and networking gap that exists in migratory hawk conservation in Central America. Representatives from the Hawk Mountain Sanctuary, Veracruz, Mexico and Kekoldi, Costa Rica are expected to participate in the workshop and data presented at the workshop will be entered in the HawkCount database (www.hawkcount.org) administered by the Hawk Migration Association of North America (HMANA).

The activities contemplated in this project will be carried out in close consultation with the National Avitourism Roundtable of Guatemala (Mesa Nacional de Aviturismo) and ARCAS's counterpart, the National Council of Protected Areas (CONAP), the government agency in charge of wildlife issues, CITES and migratory species.

Finally, project results will also be disseminated through the Rainforest Alliance/USF&WS Eco-Index network as well as through the ARCAS website and a PDF copy of the workshop report will be made available there.

D.6. Project Activities and Methodologies

Environmental education and awareness-raising activities will be carried out in strategically important communities along the route of the Azacuanes, including Taxisco, Chiquimulilla, Hawaii and Monterrico and will include presentations in local schools, municipalities and community centers regarding the importance of the Azacuanes and their ecotourism potential. School excursions will be carried out to raptor count sites in Chiquimulilla and students will take a direct part in this research. Where they exist, special emphasis will be placed on offering training to local tourism committees. These activities will be carried out by the ARCAS Environmental Education Department which has over 15 years of experience offering educational activities throughout the country in a variety of environmental themes, and which has a library and collection of educational materials and props developed with the support of the Disney Wildlife Conservation Fund, the Columbus Zoo and other American zoos, as well as with the support of the US Fish and Wildlife Service. Rescued, non-releasable animals are also used in these educational activities, but always in close coordination with CONAP, taking the utmost care to ensure that the animals are not overstressed by exposure to humans. These educational activities will be carried out with counterpart funding and in kind resources from the Alianzas Project and ARCAS, and with the support of local municipalities and the Ercho Park private reserve (site of the 2008 raptor count). A total of 1040 participants will take part in 1-2 hour presentations and field trips. Evaluation forms will be filled out by teachers, school directors and municipal counterparts on the conclusion of each event.

With the support of the Hawk Mountain Sanctuary, ARCAS has already developed an educational pamphlet on migratory raptors. (Please see attached copy). Under this project, 2,000 copies of this pamphlet will be reprinted. In addition, a simple, 8 page coloring book and a 18"X 24" poster about migratory raptors will be developed and printed, and these materials will be used in educational activities and will be distributed to workshop participants. The Columbus Zoo will assist in the illustration of the coloring book.

Five-day training workshop to share information among migratory raptor specialists, conservationists and birdwatching tour operators in North, Central and South America, exploring ways to better exploit the Azacuanes for their ecotourism potential, and raising awareness among local municipalities and tour operators about this potential. 10 regional and 15 national participants will receive training on migratory raptors. The workshop will be organized in close consultation with Hawk Mountain, Hawkwatch, the Mesa de Aviturismo and CONAP. Workshop topics will include:

1. *Biology of raptors and other migratory birds;*
2. *Raptor-based ecotourism;*
3. *Conservation challenges faced by migratory raptors;*
4. *Presentation of results of raptor bird counts and other conservation projects in North, Central and South America.*

The principal audience for the first two segments of the workshop will be local and national government officials, tourism committee leaders and tour operators. The last two segments will be oriented towards researchers and conservationists working on a regional basis. As an output of the workshop, a workshop report will be produced and printed that will include the presentations from the workshop, including bird count and other data, successful ecotourism experiences and conservation challenges. Bird count data will be entered into the Hawkwatch database. A Latin American network of raptor conservationists and ecotour operators will be formed and will explore the possibility of establishing a LISTSERV, gmail network or other internet network to continue communications. Regional participants will be presented with training materials and will be asked to conduct one workshop in their home country or region replicating this workshop.

As with the educational activities, this workshop will be held during the month of October to coincide with annual raptor bird count in Chiquimulilla organized by ARCAS with the support of the Hawk Mountain Sanctuary, Optics for the Tropics and the Birder's Exchange Program of the American Birding Association. It will include participation in this bird count as well as a field trip to the El Salado private reserve and the mangroves and beach of the Hawaii area to observe migratory birds that favor that area.

Local and national media and the Alianzas/ORMA network as well as members of the National Aviturismo Roundtable will be invited to the workshop in order to disseminate findings and, in general, to promote raptor-based ecotourism.

D.7. Time frame / work plan: 8. Work Schedule: 5. Team Composition and Task Assignment:

ACTIVITY	MONTH							
	J	A	S	O	N	D	J	F
Environmental education and awareness-raising								
Development of educational plan	■							
Contacts with Ministry of Education, Proyecto Alianzas and local schools	■							
Development of educational coloring book and poster		■						
Printing of coloring book, poster and pamphlet		■	■					
Presentations in local schools			■	■				
Presentations in municipalities and community centers				■	■			
School excursions				■	■	■		
Five-day training workshop								
Workshop planning	■							
Finalization of itinerary, selection of participants	■							
Announcement		■						
Logistical arrangements		■	■					
Workshop				■				
Editing of report						■		
Printing of report							■	
Dissemination of press release								■
Formation of network								■
Presentation of data to Hawkwatch								■
Guatemalan school year	■	■	■	■				
Flyover of migratory raptors				■	■			
Evaluations			■				■	
Final report								■

Environmental education and awareness-raising activities will be carried out by the ARCAS Environmental Education Department which includes Manuel Gonzalez, director, Oda Ericastillo and Rafael Vargas, educators. They will be dedicating 30% of their staff time to this project during 7 months. Final documents to be presented include a report on educational and awareness-raising activities, including evaluation forms filled out by teachers and school directors, participant lists for presentation to municipalities and tourism committees, photographs and copies of the pamphlet, educational coloring book and poster.

For the training workshop, an independent contractor will work full-time together with ARCAS Administrative Director Colum Muccio (50% staff-time) and Project Assistant Luisa Ortiz (full-time) in all aspects of the organization and implementation of the workshop as well as the development of all the final products, including workshop report, the creation of a Latin American migratory raptor network, press releases and dissemination to Alianzas and other networks, as well as the input of Latin American data into the Hawkwatch database. Workshop participants will fill out evaluation forms which will be analyzed by workshop organizers.

Evaluations of and reports on educational activities and the workshop will be carried out by September 15 and December 15 and are based on evaluation questionnaires which are completed by teachers or administrators of participating schools, or, in the case of

municipalities and committees, by participants in awareness-raising activities. Apart from the evaluations carried out in this project, ARCAS carries out a yearly evaluation process based on evaluation forms filled out by volunteers and participants in educational activities. These are analyzed during its year-end strategic planning seminar together with yearly goals (number of students participating, number of sea turtle eggs collected, etc.) and the results are presented in its Annual Reports, copies of which are available on www.arcasguatemala.com

A final report on this project will be presented by ARCAS to WHMSI by January 15, and will include technical and financial reports, photographs of project activities, a participant list for the workshop, the workshop report, press release in Spanish and English and any resulting articles, as well as copies of the pamphlet, poster and coloring book.

Overall administration of the project will be the responsibility of Colum Muccio under the oversight of Executive Director Miriam Monterroso and the ARCAS Board of Directors. Financial administration will be carried out by ARCAS accountant Bety Yanes under the supervision of W. Garcia Asociados, an international accounting firm that manages ARCAS financial accounts.

E. CVs

COLUM A. MUCCIO

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Ph/ Fax: (502) 2484-4495 (home), 5704-2563(cell) E-mail: arcas@intelnet.net.gt*

EDUCATION AND TRAINING

M.S., International Development Management American University, Washington, D.C., '89. Coursework in project management, public administration, and economics. Research concentrated on self-help housing, decentralization and the economics of public enterprises. GPA, 3.7.

B.A., Anthropology and Philosophy University of Rhode Island, '82. Dean's Honor Roll with a GPA of 3.7., Anthropology Departmental Award '82.

Peace Corps training La Garita, Costa Rica, '83. Training included construction, self-help community organization, project management, cross cultural studies and Spanish.

WORK EXPERIENCE

1995-present, Administrative Director, Wildlife Rescue and Conservation Association (ARCAS), Guatemala. Manages day-to-day administration, fundraising and communications functions of the Association. Chief liaison with all overseas donors, including the IUCN, Columbus Zoo, USF&WS, the Japanese government, Disney and the Humane Society. Project leader in the establishment of the Hawaii Multiple Use Area, a 4000 hectare protected area of mangrove and dry forest on the Pacific coast of Guatemala. Guatemalan administrator of the Alianzas program, an IUCN-ORMA sponsored bi-national integrated conservation project between Guatemala and El Salvador along the Pacific coast (2005-7). Member of the Pacific Coast Biological Corridor Working Group.

1990-94, International Public Relations and Training, Japanese NGO Center for International Cooperation (JANIC), Tokyo. Handled all fundraising activities. Conducted in-country and overseas training. Produced all English publications. Established English training course for NGO workers. Consulted in the establishment of the Environment Ministries NGO Fund (JFGE). Founded ARCAS/Japan.

July - December '89, Office of Resources and Benefits U.S. Peace Corps. Maintained volunteer medical billing database. Created database for medical authorizations. In absence of Budget Analyst, performed tasks ascribed to that position.

April '87 - April '89, Housing Officer Office of Housing and Urban Programs, U.S. Agency for International Development. Acted as liaison with other bureaus and donors. Supported the Abidjan Regional Office in preparation of strategy statements, annual budgets and contract documents. Assisted training officer in conducting training programs, publications, and information dissemination.

April '86 - April '87, Financial Accountant and Certifying Officer, Peace Corps Office of Volunteer Support. Financial and tax data analysis, volunteer employment verification, and overseas financial correspondence.

January '83 - April '85, Peace Corps Volunteer Costa Rica. Supervised construction and provided technical assistance in an USAID-sponsored self-help housing project in Guacacast, Costa Rica. At project completion, worked on project evaluation team.

May - December '78, Canvasser/Researcher Clean Water Action Project, Washington, D.C. CWAP is a national consumer lobby that supports legislation and conducts research in wastewater treatment, drinking water quality, and water pollution.

AGE, NATIONALITY & CIVIL STATUS

DOB: October 6, 1958. United States citizen married to a Guatemalan citizen with three adopted children.

LANGUAGES

Native language is English; fluent in Spanish; conversational Japanese

Manuel Anibal González Vásquez

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Personal Information

Country and Date of Birth:	Guatemala City, July 28, 1978.
ID No:	A-1 988141
Passport No.:	9881410

Summary of Studies

Primary and Secondary education: Liceo Canadiense Bilingual School
1985 – 1993

High School: Liceo Guatemala, Obtaining the Diploma of

High school in Sciences and Letters.
1994 – 1995

University studies: At the moment fourth year student of Degree in Biology in the Universidad de San Carlos de Guatemala.-USAC-

Work Experience (All in Guatemala)

May 2007 to the present. Director, Education Department, Wildlife Rescue and Conservation Association –ARCAS-

Technical Assistant in the headquarters of the National Organization for the Conservation and the Environment - ONCA -. From August 2003 to April 2007.

Assistant of Investigation in the Project "Pilot Program of conservation and handling of cynegetic species in two communities of the Sierra de las Minas Biosphere Reserve ", in the component of cynegetic birds executed by the National Organization for the Conservation and the Environment - ONCA -. June 2004 - May 2005.

Tabulation and handling of data of the monitoring of cynegetic species and of the registration of hunt activity for the Project "Program of Monitoring of Cynegetic Species in the Special Protection Area Punta de

Manabique", executed by the National Organization for the Conservation and the Environment - ONCA -, June 2003 - June 2004.

Auxiliary of Investigation of the Project "Biodiversity of bats in coffee farms" in San Marcos Palajunoj, Quetzaltenango. Center of the Conservation of the Biodiversity of Guatemala -CCBG-. 2001.

Educational Guide in the Guatemalan Children's Museum; of December 1999 to May 2001

Environmental educator in the Environmental Library for Children; from November of 1998 to November of 1999.

Coordinator of counting points of migrating Hawks, to establish passing routes, taking data in Chiquimulilla, Santa Rosa (November 1997) and Río Dulce, Izabal (March 1998), for FUNDAECO.

Store Manager in "The Florida State Pet Shop", from September of 1997 to October of 1998.

Courses and Workshops

"I and II Meso-American Seminar of Handling and Medicine of Wild Fauna", USAC; 1996 and 1997.

"Special Course of Environmental Education", developed in the city of Flores, Petén, October 29 to November 2 1996. Organized by the Embassy of Israel in Guatemala and the Society for the Protection of the Nature in Israel -SPNI-. 40 hours

"Impact of the Military Activities in the Environment", by Lorenzo Cardenal Sevilla, Director of Greenpeace Central America; April 1998.

Course-Workshop "The Ofidic Poisoning: Physiopatology and Treatment", by Dr. José María Gutiérrez and Dr. Gustavo Rojas, from the Universidad de Costa Rica and the Clodomiro Picado Institute; USAC; April 1999.

"Care and Handling in a Herpetarium and Ofidic Accident", by Carlos Vásquez, Reptile Curator of the Museum of Natural History of the USAC; July 2000.

Course "Taxonomy of Pinophyta and Magnoliophyta of Guatemala", July 10 to August 14 2001, by Agr. Ing. Mario Véliz, Curator - Coordinator of BIGUA Herbarium, USAC. 44 hours.

Symposium of Conservation of Birds in Guatemala, October 4 and 5 of 2001, Organized by the Guatemalan Society of Ornithology and the School of Biology, USAC.

Course "Basic Techniques to Climb Trees" by specialist Kevin D. Hamm W. March 18 and 19 of 2002, organized by AGUAT Herbarium, USAC. 20 hours.

Raptor Conservation Science Internship, Hawk Mountain Institute, Pennsylvania, USA, March – Junio, 2008

Personal References

Lic. Julio R. Morales Álvarez

Tel. (502)-2472-1195

Lic. Jean-Luc Betoulle

Tel. (502)-2473-2122

G. Summary of Costs

ACTIVITY	US DOLLARS		
	WHMSI	ARCAS	ALIANZAS
Environmental education and awareness-raising	4,900	5,950	700
Editing of educational materials	0	800	0
Printing			
Pamphlet (full-color, letter size, 2000 copies)	650	0	0
Coloring book (B&W, letter size, 8 pages, 2000 copies)	425	0	0
Azacuan poster (Full color, 18"X 24", 1000 copies)	475	0	0
Miscellaneous photocopying and printing costs	450	200	0
Presentations: Four 3-day visits, 5 presentations per visit of 40 students and/or municipal and community leaders. TOTAL PARTICIPATION 800			
Salaries for 3 educators, 30% of monthly salary of Q3000 (\$375) each X 7 months	0	2,800	0
Transportation (gasoline, tolls, ferry service...) \$100 per visit Guatemala City-Chiquimulilla + 1 coordination visit	400	100	0
Transportation (Depreciation of vehicles, maintenance...)	0	250	0
Food and lodging for educators. \$100 per visit.	200	100	100
Four school excursions to raptor count sites. TOTAL PARTICIPATION 240 students			
Educator/guide for count site excursions (\$200 per excursion)	300	500	0
Transportation (bus rental, tolls, ferry service...\$350 per excursion)	600	400	400
Food (\$250 per excursion)	600	200	200
Equipment for bird counts (binoculars, tripods...)	800	600	0
Five-day training workshop for 30 participants	20,000	10,162	2,900
Workshop consultancy. Facilitation of workshop, logistical organization, preparation of workshop report, data entry in Hawkwatch and creation of network. Q5700 (\$571) per month X 7 full-time.	4,000	0	0
Colum Muccio. Workshop organization, facilitation, prep. of report. 30% of monthly salary of Q10,000 (\$1250) X 7	0	2,625	0
Louisa Ortiz. Project assistant for organization of workshop, preparation of report and creation of network. Q4500 (\$562) per month X 7 months full-time	0	3,937	0
Transportation for workshop participants (2 participants from South America (\$1,000 each), 3 from N. America(\$600 each), 5 from Central America (\$350 each) and 15 Guatemalan participants (\$15 each.)	5,750	1,500	1,500
Food workshop participants (\$30 per person X 5 days. Includes conference room)	4,500	0	0
Lodging for workshop participants (\$77 per double X 10 doubles X 5 days.)	3,850	0	0
Workshop materials (Training materials, documents, newsprint, magic markers...)		400	1,000
Audiovisual equipment rental	0	700	0
Printing of report (60 pages, 500 copies), DVDs	500	0	400
Transportation and food for workshop organization and field trips for participants	1,400	1,000	0
Laptop computer	800	0	0
Administrative and communications costs for the organization of project activities (15%/2)	1,928	1,208	0
TOTAL	27,628	17,320	3,600

ATTACHMENTS:

1. Migratory raptor pamphlet
2. ARCAS 2008 Annual Report