Agenda Ítem SC. 2.6.

Crocodile Specialist Group Steering Committee Meeting

Skukuza, Kruger National Park, South Africa

22 May 2016

Regional Report: Latin America & the Caribbean

Argentina

Information provided by Carlos Piña, Walter Prado, and Pablo Siroski (April 2016).

At the moment there are 7 ranching programs registered at the Federal Government, one of them has an educational purpose (Entre Ríos) and another has a touristic purpose (Chaco). There are 2 in Formosa, 2 in Corrientes, 1 in Chaco, 1 in Entre Ríos and 1 in Santa Fe. Programs located in Formosa and Corrientes ranch both species, *Caiman latirostris* and *Caiman yacare*; the ones in Santa Fe and Entre Ríos only ranch *C. latirostris*. Currently, due to the lack of commercial activity registration of the projects in Entre Rios and Chaco is under revision.

During 2014 and 2015, Argentina produced over 35,000 skins (19,663 *C. latirostris*, 15,704 *C. yacare*), of which 21,294 were exported (83% of exported skins were *C. latirostris*).

Nest harvests in Dec 2014-Feb 2015 and Dec 2015-Feb 2016 were good in all the provinces, in both seasons. Including the two programs from Formosa, the two programs in Corrientes and the program in Santa Fe, they collected 2292 nests (including both species) during Dec 2014-Feb 2015, and 2050 nests this last summer. Chaco and Entre Rios did not collect eggs (Chaco and Entre Ríos), neither one of the programs in Corrientes.

Monitoring programs of wild populations are being done on a regular basis in Corrientes, Formosa and Santa Fe.

		Nests		Hatchlings	
		C. latirostris	*C. yacare*	*C. latirostris*	*yacare*
Formosa	2015	83	1216	1650	19,621
	2016	192	1385	3849	25,114
Corrientes	2015	469	28	14,292	1095
	2016	404	7	12,249	245
Santa Fe	2015	233		4507	
	2016	469		8491	

Since 2011, there was a petition to the Federal government in order to allow importation of caiman skins. During 2013 and 2014 a total of 13,949 *C. c. fuscus* skins were imported. A total of 13,809 of those were tanned, finished in Argentina and exported to USA as boots cuts.

The federal authority is currently working on the unification of the resolutions that regulate the activity in Argentina (283/00 and 003/04) with the goal of to strengthen the sustainability of the programs.

Information compiled by Alfonso Llobet[1]

1. *Caiman yacare* wild harvest program:

1.1. Overview of the Program:

During the last six years, the harvesting quota authorized under the National Program for Conservation and Sustainable Use of *Caiman yacare* vary from 41,578 individuals in 2010 to 36,287 individuals in 2013. Moreover, the harvests have fluctuated between 32,298 individuals (in 2011) to just over 36,200 individuals (in 2014 and 2015):

Year	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**
Autorized	36,287	36,422	39,066	40,372	41,578	41,578
Harvested	36,215	36,206	37,648	32,267	32,208	37,223

The National Program currently has 2 approved management plans, the Management Plan for the Integrated Management Natural Area San Matias, and the Management Plan for the Tacana I indigenous territory, which have been recently updated and approved in 2016. Moreover, the Bella Vista community is in the process of presenting their Management Plan to the authorities; and 10 management plans from other indigenous territories are in the process of updating. Details of all this process are as follows:

- 1 TCO (indigenous territory) Tacana with updated management plan, approved in April 2016.
- 1 Protected Area (ANMI San Matias) with Management Plan approved in February 2016.
- 10 TCOs (indigenous territories): Takana III, More, Joaquiniano, Sirionó, Canichana, Movima I and II, Cayubaba, Baures, Itonama, TSIman, in the process of updating their management plans.
- 1 Community (Bella Vista) in process for updating its Management Plan.

Moreover seven TCOs (indigenous territories) not have updated their management plans or are in the process of renovation (TIM, TIMI, Chacobo Pacahuara, Kabineño, Tacana Cavineño, Multiethnic II, Guarayos); the municipality of Loreto has not updated its management plan, and the Protected Area Otuquis is not considered in the program since its management plan is not in effect.

From 2011 and during 2012, the National Authority (DGBAP) provided technical support to several indigenous lands within the framework of the local empowerment approach of the

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[1] We would like to express thanks for the Information provided by the National Authority on Biodiversity (DGBAP), Teresa Pérez, Pilar Becerra, Crocoland Farm, Alejandro Franulic, Andres Rodriguez, and Luis Pacheco.

National Program. Currently, no indigenous territories are being directly supported, but most of them maintain this approach for the implementation of their management plans.

In the search for better benefits for local actors, currently the National Program implemented negotiation spaces that are supported by the State, in order to facilitate and coordinate the economic relations between beneficiaries and companies that buy, mainly leather and meat, in the search for fairer prices. These spaces of negotiation, are meetings that are held once a year, which have not only enabled trade relations but also strengthen the beneficiaries of the program, the information is updated and weaknesses are identified and further commitments are established both by beneficiaries and the national and departmental authorities.

1.2. Harnessing yacare meat:

With the approach of comprehensive utilization of the species, national authorities have supported the use of meat. In this context there are some initiatives as: Loreto, Bella Vista, Tacana I, who have been trained to do a good handling meat since 2009. Currently other territories have joined to the use of meat as Itonama, Tacana III, Canichana and Siriono.

The network of yacare meat, regulated by the National Authority, and made up by legal traders, restaurants, meat processors and stuffers, allows legal trade in meat and facilitates the authorities control over this process.

1.3. Experience of the Tacana Indigenous Territory (TCO):

The association of yacare hunters "Matusha Aidha" from the TCO Tacana I, with the support of the Indigenous Council of Tacana People (CIPTA) and technical support from Wildlife Conservation Society (WCS) has been managing the yacares since 2007. The hunting of yacares has become a sustainable livelihood for its members and partners, as well as the CIPTA and others.

The Matusha Aidha Association has been established as exporter since 2014, and the responsibility in the management and utilization of both leather and meat has allowed him to establish trade links with major companies like Gucci and renowned restaurants as Gustu, achieving increase revenue 700% approximately by marketing leather and meat.

2. *Caiman yacare* ranching and captive breeding program in Bolivia:

2.1. Communal Farms:

In September 15th, 2014, under the Administrative Resolution No. 25/14 VMABCCGDF, the Management Plan "Program for Sustainable Use of wild of eggs *Caiman yacare* in Indigenous Communities and Community Lands of Santa Cruz and Beni" was approved by the Ministry of Environment and Water. The proposal was presented by the Confederation of Indigenous Peoples from Bolivia (CIDOB), and constitutes a pioneering venture nationwide which has led to the conservation and generation of economic alternatives in rural communities.

In January of 2015, the first Communal Farm was enabled in the Community of San Lorenzo de Moxos, Trinidad, Beni, where about 50 families have been benefited from this project directly, generating approximately 30,000 $US, money that was invested in this Community.

Community harvesters were able to collect 7030 eggs, producing 5,626 successful hatches. Only the 20% of the eggs were lost (1404 losses). The breeding of the hatchling took place during March and December of 2015 in the community farm. At the end of production, the Relevant Environmental National and Regional Authorities oversaw and recorded a total of 4,649 animals within the production site, of which 10% was reintroduced in management areas. The productive remaining stock was sold and translated to Crocoland Farm, which is the current market for the communities.

The company Crocoland supported financially and technically the implementation of the Communal Farm and nowadays it constitutes the potential market for the products generated in the community program.

2.2. Crocoland Breeding Center:

Crocoland Farm is still the only authorized facility to operate with captive breeding of *Caiman yacare* since 2007. Nowadays it is working on close production with captive breeding stock and advising Communal Ranching Programs.

For the last two years, 2014 and 2015, Crocoland reported the next information:

Year	System	Number of Hatchlings	Deaths	Number of tanned skins	Quantity of animals being raised in the farm
2014	***Farming***	6907	1346	0	**5561**
	Ranching	0	0	0	**0**
	TOTAL	**6907**	**1346**	**0**	**5561**
2015	***Farming***	8647	90	0	**8557**
	Ranching	0	0	0	**0**
	TOTAL	**8647**	**90**	**0**	**8557**

From now on, Ranching activities are not going to be carried out by Crocoland, but it is currently the only legal market for Communal ranching activities.

***Melanosuchus niger* and *Caiman latirostris*:**

There were no advances in the approval process of the action plan for *Melanosuchs niger* and for *Caiman latirostris*.

However, during the evaluation process of yacare populations subject to harvesting in the department of Beni, and also during the updating process of several management plans, information on the status of *Melanosuchus niger* populations is being gathered. This same situation occurred during the monitoring of yacare nests in San Lorenzo de Moxos (Communal farm).

On the other hand, Luis Pacheco informed that his team is conducting a study to determine the home range and habitat use by *M. niger* and *C. yacare* in Beni Biological Station.

Biologist Paola de la Quintana is doing the fieldwork, with participation of other professionals as James Aparicio, Ninón Ríos, Mauricio Ocampo, Fabiola Suarez, Ciro Humboldt and Luis Pacheco. The Project started in september 2015, and until now 12 animales were captured to place them radio transmitters.

Brazil

Prepared by: Luís Bassetti, Marcos Coutinho e Yeda Bataus (April 2016)

During 2014/2015, Brazil exported 13.087 skins of *Caiman yacare* (Italy, USA, France, Philippines, Mexico, China and Thailand) and 874 skins of *Melanosuchus niger* (Argentine and Italy).

At the moment, there are two rearing facilities of *Caiman yacare* in the north Pantanal and one in the south, and one of *Melanosuchus niger* in the Araguaia river basin. *Caiman latirostris* has been managed in closed system (farming) within the species distribution range, which includes northeast, southeast and south of Brazil.

The harvest program of *Melanosuchus niger* and *Caiman crocodilus* in the Amazon sustainable use reserves is regulated by ICMBio Normative Act 28/2012 which applies the same techniques applied by Ibama Normative Act 07/2015, instead of harvesting eggs, harvest quotas are direct to young adults. Currently, there is one ongoing project in the mid Madeira River basin.

The National Center of Amphibians and Reptiles (ICMBio/RAN) released the results of the evaluations of the status of crocodilians in Brazil, with the technical specifications and the distribution map of the species. A copy of this evaluation can be downloaded from: (http://www.icmbio.gov.br/portal/biodiversidade/fauna-brasileira/estado-de-conservacao/2789-repteis-crocodilianos.html). The next round of evaluation is scheduled for the second half of 2016.

IBAMA Normative Act 169/2008, which regulates farming and ranching of *Caiman yacare, Caiman crocodilus, Caiman latirostris* and *Melanosuchus niger* was updated to IBAMA Normative Act 07/2015. Improvements were basically on administrative grounds, whereas technical procedures remained the same. There is, managers have to define management area explicitly, and monitor climatic conditions and population abundance and structure. Based on the data egg harvest quotas are defined annually and a number of biological and socioeconomic indicators are monitored both by government and by managers.

Finally, as reported in 2014, all commercial breeding of caimans are supervised by the state departments of the environment, but it has generated serious problems for farmers, mainly because the software created by São Paulo State and those used by other states do not communicate, preventing sales and exchanges of animals between the commercial breeding.

Central America

Information provided by Marisa Tellez.

Cuba

- About 100 hatchlings were released into Zapata Swamp as part of a reintroduction program of the Cuban crocodile (*Crocodylus rhombifer*). However, no further investigation on the survival of the hatchlings, as well as any other population studies, have been pursued since early 2015.

- There is an interest to pursue investigations on the parasitism and health of *C. rhombifer*.

Belize

- There has been a rise in human-crocodile conflict between *Crocodylus moreletii* and the local community. The Belize Forest Department, Dr. Frank Mazzotti (and his team from the University of Florida), as well as Dr. Marisa Tellez (in concomitance with the Crocodile Research Coalition) have been and are currently discussing implementing a Nationwide Morelet's Population Survey following the guidelines of Tri-country agreement and manual presented by CONABIO in 2011. It is intended that the data from this survey will assist in the proper management of *C. moreletii,* and assist in the decline of human-crocodile conflict.

- The habitat of *Crocodylus acutus* among the cayes of Belize is greatly decreasing, which is increasing human-crocodile conflict as crocodiles move into urban/developed areas thus creating negative attitudes towards crocodiles. Additionally, there has been an increase in physical deformities among hatchlings on Ambergris Caye, and there is a population of crocodiles eating trash at a high rate (this population is right next to a development that is filling the lagoon with trash for landfill). Pollution seems to be a key factor endangering the population stability of *C. acutus* on Ambergris Caye.

- The current status of *C. acutus* throughout the country is unknown. There has been some discussion to launch a nationwide survey in the next two years to determine the population status of *C. acutus*.

- The Belize Wildlife officer has initiated a Wildlife Public Awareness campaign, which includes children's books and other educational materials about living with crocodiles. He hopes this can increase the knowledge, respect, and education of the local communities towards crocodiles.

Guatemala

- Current status of *Crocodylus acutus* is data deficient/unknown.

- *Crocodylus moreletii* populations may be in decline, but more data needs to be generated as the last survey performed was in 2013, in which 301 crocodiles were recorded.

- Status of *Caiman crocodilus* is data deficient, and exact range in Guatemala is unknown.

- The two farms that were registered that bred *Caiman crocodilus* is no longer in operation.

- There is current discussion to implement a nationwide Morelet's survey in 2017, yet funds have not been secured as of yet.

- Habitat destruction and illegal poaching are major threats to crocodilians in Guatemala.

- Population surveys of all species are warranted to evaluate the proper actions needed to be implemented for conservation management.

El Salvador

- No recent information or data to be presented. The principal wildlife officer has stated that there is need to perform more research on the crocodiles and caimans, however, due to lack of funding they are not able to pursue any investigations.

Honduras

- In early October 2015, Marisa Tellez was made aware by Mario Espinal and Miss Karl Johanna Duarte Tercero from Asociación Hondureña Protectora de los Animales y su Ambiente (AHPRA) that the crocodile farm Cocodrilo Continental had been shut down, and that the 9000 crocodiles (*C. acutus*) had not been cared for or fed for 40+ days. Miss Tercero asked if the CSG could intervene by contacting government authorities to voice their concern. A letter was prepared by Grahame Webb, Tom Dacey, Alejandro Larriera, and Marisa Tellez, and was sent to the President of Honduras, in addition to the appropriate wildlife and forest ministers. By mid-December 2015, Marisa Tellez was informed by AHPRA that monetary campaigns led by local communities and national organizations which were concerned for the welfare of the animals, in addition to some government assistance, were raising enough funds to feed the crocodiles. As of early February, 2016, Marisa Tellez was informed Cocodrilos Continental had mended their finances, and that the crocodiles were again being fed and properly cared for. Miss Tercero extends her gratitude to the CSG for their concern, and taking action through the letters written by the CSG to the appropriate government authorities.

Nicaragua

- Mr. Ronny Chamaro, a tour guide and conservationist for Ryo Big Tours in San Juan, Nicaragua, is currently working with the Ministry of Natural Resources to develop a research program for the local caiman population. He is currently looking for funds and researchers to come to the area and work with him on population studies and biological studies of the caimans.

Costa Rica

- Crocodile researchers have organized a group to strengthen their research and conservation efforts in addition to working closely with the government.

- Boats and motors were donated to areas of high human-crocodile conflict to monitor or hopefully alleviate the situation.

- A monitoring program is currently underway in Rio Tempisque as there is an increase in human-crocodile conflict.

- A study will be published later this year about how toxins are negatively affecting the male:female ratios in Rio Tempisque.

- Latest research and updates on *Caiman crocodilus* is the same as in the last CSG meeting: population is stable, yet studies on *Caiman crocodilus* are not as prominent.

- Human-crocodile conflict has shown to be decreasing over the last 2 years.

Panama

- There has been an increase between humans and *Crocodylus acutus*, particularly because of the loss of habitat. As a result, the government has decided to initiate population studies to enhance management decisions and to hopefully alleviate human-crocodile conflict. However, the continuous change of government and politics has made this initiation difficult.

- There is a concern for the future of farming of crocodiles in the country. Of the 4 farms established in the 1990s, only 2 remain operationally officially. Furthermore, there is no systematic method or document in which the farms follow, thus there is incongruent information. As a result, there is a lack of control commercially.

- A major concern about farms is that there has been no inspection in at least 4 years. Additionally, farms have not updated their inventory and will not allow anyone to access their database, which is questionable.

- The following suggestions have been made to ensure short and long-term solutions in areas of concern for crocodilian conservation:
    - Organize and initiate a document the explicitly states the expectations and procedures of farms and exportations.
    - Initiate a study that shows the stability of the crocodilian population, and possibly assist in the decision of the sustainable use of wild crocodilians.
    - Initiate and implement inspections at farms

- On 21 January 2016 a meeting was held to discuss a plan of action to establish population studies of *Caiman crocodilus* and *Crocodylus acutus.* It was agreed the meeting was a good initiative to move forward with past discussion of conservation management, as well as help with the government's decision and effort, but that continuous effort would be needed after the meeting.

Colombia

Information provided by Sergio A Medrano-Bitar April 2016

Captive breeding and harvest

Since the last meeting of the CSG in Louisiana 2014, the guidelines concerning crocodile management in Colombia have changed drastically.

The countless and historical questionings as well as the national and international recommendations imparted by the CSG and the UICN towards a sustainable use of the babilla (*Caiman crocodilus*) have led Colombian politics to a more organized and participative management of crocodiles, which we expect will eventually become an example of good management practices for wild fauna across the world. From the foundations of this new

system we are developing an important relationship between scientific research, the government, the farms, the communities and the crocodiles.

The process has experienced some adjustments due to the inherent characteristics of the previous system (captive breeding). The adaptation to the new rules, as well as the preparation for the studies in the natural populations that will establish a harvest quota, have been the biggest challenges that have slowed down the process.

Acquired compromises between the Colombian government and the European community, related to the administration and traceability of the skins, as well as the determined quota for an experimental harvest that benefits the local communities and allow a better use of the habitat, must be verified between 28 February and 1 May. The Colombian government will then, through its CITES administrative authority (Ministry of Environment), inform the European Union about the decisions concerning this issue.

Important actions to continue with the conservation of crocodiles have been implemented with *Crocodylus acutus* and *Crocodylus intermedius*.

Crocodylus acutus (Caimán del Magdalena)

The advances to reclassify the population of *Crocodylus acutus* in the Cispata Bay (north of Colombia in the Caribbean), from CITES appendix I to appendix II are still led by the Corporación Autónoma Regional del Sinú (CVS), the private parties (Farms), members of the CSG, FunCroco, the academia, administrative and scientific CITES authorities, and the ministry of Foreign Affairs. The advances in this subject are expected to be heard during the next CITES meeting in South Africa.

On the other hand, in order to accomplish recognition in the conservation of the species and to open a commercial area of its skins in the North American market, between April 5 and 6 we started to put together the workgroup that will launch the "Proposition for Downlisting in the ESA", led by the CSG and presided by Alejandro Larriera, vice-president of the group.

Crocodylus intermedius (Caimán del Orinoco)

Two independent initiatives are being developed in Colombia to be able to recover the populations of this species. One of them is being led by the Universidad Nacional, which has an official status, and another one originated by a private party: Fundación Palmarito Casanare, under the supervision of biologist Rafael Antelo PhD. Unfortunately, the communication between these two initiatives is limited, which does not allow to unify the criteria to consolidate one single project with the single objective of recovering the species. However, both institutions have accomplished significant goals regarding the liberation and following processes of Caimans, which enriches our knowledge of their biology.

Congresses

The second Colombian symposium of crocodilians "Conservation and Communities, an opportunity for the Crocodilians" was held in December 2014. It took place during the Fourth Colombian Congress of Zoology and the Tenth Latin-American Congress of Herpetology. This event was supported by FunCroco, Fundación Palmarito and the CSG Colombia, and

enjoyed the participation of important members of the CSG and the rest of the world, who lectured about several subjects concerning the conservation and biology of these animals.

Courses

On 16-21 November 2014 the "First International Course for the Management of Crocodilians" took place in Tolima, organized by the Universidad del Tolima and with the participation of FunCroco, the CSG, Piscilago Zoo and the private parties.

Articles publications and thesis

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Balaguera-Reina S.A. and Ll. Densmore. 2016. Crocodiles in the world. Apps for conservation. Available in: http://www.faculty.biol.ttu.edu/densmore/app/#intro.

Abel Pineda. Ecología poblacional del Caimán aguja (*Crocodylus acutus*; cuvier, 1807) y la Babilla (*Caiman crocodilus fuscus*; cope, 1868) en el embalse de Urrá, Montería, Cordoba. B.Sc. thesis. Universidad de El Bosque. *Advisor. In process*.

Alejandro Morales. Estructura poblacional, abundancia relativa, distribución espacial y estudio de hábitat de *Crocodylus acutus* (Cuvier, 1807) en el Parque Nacional Coiba, Panamá. B.Sc. thesis. Universidad de El Bosque. *Advisor. In process*.

Paola Niño Mahecha. 2015. Relaciones etno-zoológicas y ecología poblacional del Caimán aguja (*Crocodylus acutus*) (Cuvier 1807) y la Babilla (*Caiman crocodilus fuscus*) (Cope 1868) en el Valle del Alto Magdalena, Colombia. B.Sc. thesis. Universidad de El Bosque. *Advisor*.

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Mexico

Reporting period: May 2014 - April 2016
Information provided by: Hesiquio Benítez, CONABIO

1. Research and new information

A. National Morelet´s Crocodile Monitoring Program

The Morelet's Crocodile Monitoring Program in Mexico is financed and coordinated by CONABIO (CITES Scientific Authority) since 2011 in collaboration with researchers of the Institute of Biology (UNAM), UJAT, COMAFFAS A.C. and Amigos de Sian Ka´an A.C.. Seasons 2014 and 2015 were concluded in this reporting period, and results of the five years of the program (2011- 2015; Sánchez *et al.*, 2011, 2012, 2015; CONABIO, 2016) show that:

a) The average National Encounter Rate (TEN) in the five years of the program is 3.34 ind/km (min. 2.38 to max. 4.49 ind/km), with an average estimated population size of 76,000 wild individuals (min. 54,343 in 2011 - max. 102,520 individuals in 2016), considering a conservative potential distribution area of 22,833 km estimated through MaxEnt modelling in 2016 (**Table 1**).

Table 1.- Encounter rates and estimated population size 2011-2015 in the Monitoring Program of *C. moreletii* in Mexico

Year	Number of specimens sighted	National Encounter Rate (ind/km)	Estimated Population Size (number of wild individuals)
2011	891	2.38	54,343
2012	1,257	3.28	74,892
2013	1,267	2.98	68,042
2014	1,502	3.58	81,742
2015	1,753	4.49	102,520

b) Population structure (**Figure 1**) shows a pyramidal size structure, which reflects a healthy population with significant hatchling production and a good proportion of

juvenile and reproductive adults. These proportions coincide with those observed in caught specimens.

c) A total of 697 specimens were caught (395 males, 279 females, 23 undetermined), with an average estimated sex ratio of M1:F0.71 (M1:F0.6 to M1:F0.8).
d) On average, 79% of the males and 75% of the females captured presented an apparently good state of health with a normal build, based on the General Strength Index (ratio of the perimeter of the base of the tail/total length in relation to the average and 1, 2 or more than 2 standard deviations (SD)).
e) An average of 78% monitoring sites was in a visibly good or very good habitat conservation conditions.

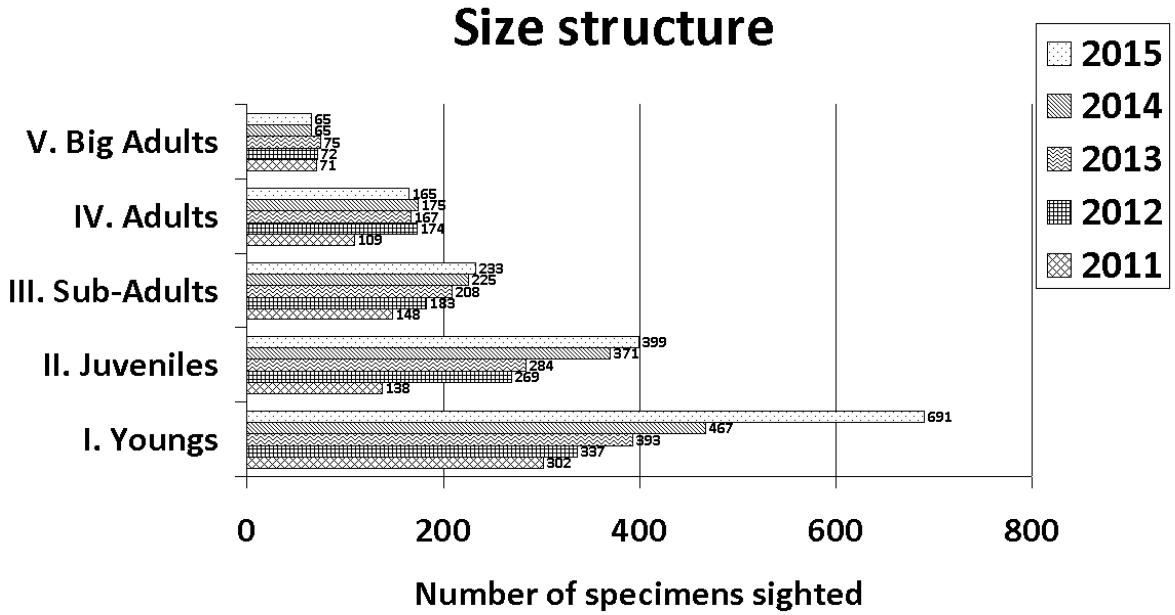

Figure 1.- Population structure (size) of Morelet´s crocodile in the sampling sites of the monitoring program in Mexico (2011-2015)

B. Local population monitoring activities

Researcher(s)	Projects
Pierre Charruau	Long-term monitoring of the population of *Crocodylus acutus* in Banco Chinchorro, Quintana Roo, where health, morphometry, ecology and behavior of crocodiles and their reproduction is studied. *C. moreletii* research also started in the Usumacinta River basin.
Yadira Gómez (Sian Ka´an Biosphere Reserve, CONANP)	Monitoring the recovery of savannah affected by fires in 2015 and the movement of Morelet´s crocodile (*Crocodylus moreletii*) in the north area of the reserve
Onca Maya, A. C.	Monitoring subprogram of the Crocodile Management and Conservation Program in the Nichupté Lagoon System, Quintana Roo. Results of 2014 (September-December) shown 0.4 ind/km, less than sightings in 2000-2002 (0.8 ind/km).
Edgar Sarmiento (technical supervisión; La Encrucijada Biosphere Reserve, CONANP)	*Crocodylus* population monitoring (*Crocodylus acutus* and *Caiman crocodilus fuscus*) in the Biosphere Reserve La Encrucijada, Chiapas

C. Research projects

Researcher(s)	Projects
Angel David Trujillo Martinez Advisor: Jerónimo Domínguez	Population assessment of the Cayman (*Caiman crocodilus*) and American Crocodile (*Crocodylus acutus*) in two estuarine systems RAMSAR in Tonala, Chiapas.
Daffny A. Martínez Advisor: Pierre Charruau	2015. Influence of incubation temperature on survival, morphology and sex of *Crocodylus acutus* newborns. Thesis for bachelor´s degree. Biology. Instituto Tecnológico de Chetumal, Quintana Roo.
Franklin Cuapio Advisor: Pierre Charruau	2015. Incubation temperature in nests of *Crocodylus acutus*, its relationship with environmental variables and effects on incubation period, hatching success and sex ratio. Thesis for Master´s degree in Biological Sciences. Instituto de Biología, UNAM.
Giovany A. González Advisor: Pierre Charruau	2015. Nesting ecology of crocodilians in the Biosphere Reserve La Encrucijada, Mexico. Thesis for Master´s degree in Agricultural Sciences and Natural Resources. UAEM, Toluca
Fernando González Advisor: Pierre Charruau	2015. Body condition of the American Crocodile (*Crocodylus acutus*) in National Park Arrecifes de Xcalak, Quintana Roo. Thesis for Master´s degree in Sciences, Natural Resources and Rural Development. ECOSUR Unidad Chetumal.
Oscar Romero Co-advisor: Gualberto Pacheco	2015. Genetic variability and structure of American Crocodile (*Crocodylus acutus)* in three populations of Chapas, Mexico. Thesis for bachelor´s degree. UNAM.
Ilse Paulina Juárez Co-advisor: Gualberto Pacheco	2015. Genetic analysis of Crocodylus acutus in three localities of Bahía Banderas, Jalisco-Nayarit. Thesis for bachelor´s degree. Universidad de Guadalajara, Centro Universitario de la Costa
Andrea Argumedo Advisors: Jerónimo Domínguez and Gualberto Sierra	Genetics of Chiapaneco Cayman (*Caiman crocodilus*) Population Status for conservation in Mexico, in collaboration with the IUCN Crocodile Specialist Group (CSG).
Liliana Berenice Advisors: Jerónimo Domínguez and María Carolina Muñoz.	Identification and quantification of heavy metals concentration in tissue and blood of American Crocodile (*Crocodylus acutus*) and spectacled caiman (*Caiman crocodilus*) of Estero Prieto, Tonala, Chiapas. In collaboration with the Center for Geosciences (UNAM) and the IUCN Crocodile Specialist Group (CSG).
Juan Manuel González Advisor: Jerónimo Domínguez	Risk mitigation in human-crocodile interaction and conservation proposal for *Crocodylus acutus* in Lazaro Cardenas stuaries, Michoacán

2. Management and conservation actions

A. Projects

Lead	Project
Jerónimo Domínguez (technical manager; COMAFFAS, A. C.)	Amercian Crocodile (*Crocodylus acutus*) and Cayman (*Caiman crocodilus*) conservation program, in collaboration with the Cooperative "El Madre Sal" Coast of Chiapas, for the establishment of a Center for Conservation, and Management Units for Conservation of Wildlife (UMA) for both species.
Jerónimo Domínguez	Conservation center for American Crocodile (*Crocodylus acutus*)

(COMAFFAS, A. C.)	in the UMA “Cocodrilario El Boquerón” in Osumacinta, Chiapas. Activities on: conservation, reproduction, development and environmental education in the Zoque region and Grijalva River Basin
	Conservation center for American Crocodile (*Crocodylus acutus*) in the UMA “San Joaquín” in Emiliano Zapata, Chiapas. Activities on: conservation, reproduction, and sustainable use
Andres Leonardo Rodriguez (COMAFFAS, A. C.)	Development of a basic guide for studies aimed at the conservation, management and sustainable use of Yacare (*Caiman yacare*) in collaboration with Crocoland.
Edgar Sarmiento (technical advisor)	Community Environmental Contingency Brigade "Reducing risk and conflicts with populations of crocodilians in the Biosphere Reserve La Encrucijada, Chiapas, Mexico”.
	Capture, management, marking and releasing of crocodiles and caimans in the Sanctuary “Playa Puerto Arista”, Tonalá, Chiapas (8-9 September 2014)
Yadira Gómez (Sian Ka´an Biosphere Reserve, CONANP)	· Installation of signs with information in the crocodile area of the Sian Ka´an Biosphere Reserve to minimize negative interaction between crocodiles, tourists and anglers. · Intensive savanna monitoring in dry season to prevent fires in this ecosystem, which constitutes an important refuge and nesting area of Morelet´s crocodile

B. Workshops and awareness events

1) Course-workshop in specialized management of crocodiles in the wild and in captivity. Ecological Center of Cuyutlaán, Colima, México. 22-25 May 2014. COMAFFAS, A. C.
2) 1st course-workshop in specialized management of crocodiles in Yucatán. Biosphere reserve Ría Lagartos, Yucatán. 21-25 August 2014. COMAFFAS, A. C.
3) Courses in specialized management of Morelet´s Crocodile in Coatzacoalcos, Veracruz. Jaguaroundi and Bicentenario Parks. 12-14 August and September 2014. Instructor: Gualberto Pacheco
4) Training Workshop on Biology, Management, and Restraint of crocodilian, and national protocol on attention of contingencies (8-10 October 2014). Communication, Participation and Awareness Center for the Conservation of Wetlands, Santo del Agua, Pijijiapan, Chiapas. Biosphere Reserve La Encrucijada.
5) 1st international course-workshop in specialized management of Crocodylia in Colombia. COMAFFAS, A.C., endorsed by the IUCN-CSG. November 2014
6) Specialized capacity building on crocodilian management for the Chilpancingo Zoo staff. Guerrero, December 2014. COMAFFAS, A.C.
7) Course-workshop in specialized management in American Crocodile. UMA Cocodrilario “El Boquerón”, Osumacinta, Chiapas, México. 18-20 May 2015. COMAFFAS, A. C.
8) 1st course in specialized management of crocodiles in Alvarado, Veracruz. January 2015. COMAFFAS, A. C.
9) Course on specialized management and rescue of crocodilians in Lázaro Cárdenas, Michoacán, API and Barra Santa Ana. January 2015. COMAFFAS, A. C.
10) Workshop to strengthen knowledge exchange on crocodilians in Manialtpec-Collantes Corridor in Oaxaca Coast, Tututepec, Chacahua, Oaxaca. March 2015.
11) 1st National Symposium on Pacific Crocodilians. San Blas, Nayarit. June 2015. COMAFFAS, A.C.
12) 2° course-workshop in specialized management of Pacific crocodilians. San Blas, Nayarit, México. 18-20 June 2015. COMAFFAS, A.C.
13) CONANP “La Encrucijada” Biosphere Reserve environmental sessions in eight localities of Chiapas municipalities, with fifth grade students (elementary school) derived from the

crocodile incident report. Presentations, exhibitions, documentaries, games, tales, handicrafts, environmental movies, among others.

14) CONANP "Sian Ka´an" Biosphere Reserve organized several workshops to inform the villagers on the management plan of the reserve and to reduce negative interactions with crocodiles.
15) Conferences within the Environmental Education Subprogram of Onca Maya A. C. in Cancún and Playa del Carmen Planetarium, Quintana Roo. February 2015 and April 2016.

3. Production and trade

A. Improving habitat conservation and promoting sustainability use and traceability of Morelet's crocodile in Mexico

The objective in the following years is to set up an integrated production system of high quality *C. moreletii* skins, based on conservation of the species and its habitat, as well as the sustainable, legal and traceable use with fair and equitable sharing of the derived benefits among the actors in the value chain. This initiative will involve the participation of local communities in the conservation of the species and its habitat through ranching activities (Free Range UMA), supported by sustainable harvest rates of nests and Non-Detriment Findings in accordance with national legislation and CITES provisions. The hatchlings obtained through incubation at local communities will be sold to farms (Intensive UMA). This will be done by means of Previous Informed Consent (PIC) and Mutually Agreed Terms (MAT) frameworks, and with the support of a novel biometric traceability system in addition to CITES provisions to ensure legal provenance and the sustainable origin of skins.

In this regard, CONABIO is funding and coordinating the development of a ranching protocol (to be finalized in mid-2016), in collaboration with Mexican and international experts, which will describe in detail aspects on population and nest monitoring; habitat conservation, monitoring and management; estimation of sustainable harvest rates for ranching; nest management, extraction and transport of eggs; incubation and care of hatchlings from birth to sale. This protocol will be the basis for the development of management plans for the Free Range Management Units (UMA, communities), which will carry out ranching activities in the following years, as well as for the issuing of Non Detrimental Findings. The protocol will also be used to train experts from those Units.

The initial implementation of such activities will be achieved through the "Pilot project on the sustainability, production systems and traceability of skins of Morelet's crocodile (*Crocodylus moreletii*) in Mexico", in collaboration with the Responsible Ecosystems Sourcing Platform (RESP), in a few pilot sites. It is hoped that the results can be replicated in other local communities and farms in order to broaden the effects of the project at the national level and in the long term. It is also hoped that the results will be useful for similar projects in other countries.

Form February 29th to March 2nd the workshop on "Traceability of Morelet´s crocodiles skins in Mexico" was held in UMA Cocodrilos Maya (exporting farm), Ciudad del Carmen, Campeche. Participants in the workshop included local communities (Santa Isabel and UMA Cocodrilos de Palizada), producers (Manuel Muñiz), tanneries (Grupo Cuadra), Authorities (CONABIO, PROFEPA) and representatives of RESP and Anteleon. The objective was to test the biometric identification technology developed by RESP within the usual process of skin production in a farm. Results will be presented at the 17th meeting of the Conference of the Parties of CITES (Johannesburg, September-October 2016).

On March 4th 2016 a meeting of the National Coordination Committee of the Pilot Project was held in Mexico City, where progress to date was reviewed and next steps were determined. Activities on 2016 will include:

a) Free Range UMA (local communities) to be officially registered to the Mexican Ministry of Environment (SEMARNAT)
b) Training on monitoring populations, nests and habitat will be provided to Free Range UMA and complimentary monitoring data will be obtained at the pilot sites
c) An experimental ranching quota will be authorized to train the Free Range UMA and the whole group of crocodiles obtained will be released into the wild at the collection sites
d) A formal ranching quota for 2017 will be authorized, based on monitoring data, Non Detriment Findings and the ranching protocol, only to the pilot sites of the project, which will then be revised in the following years as part of an adaptive management scheme and in line with the ranching protocol provisions.

B. National production (Morelet´s crocodile)

Up to 86 captive breeding Management Units for Conservation of Wildlife are registered to manage *C. moreletii* in Mexico at the General Office of Wildlife of the Natural Resources Ministry (DGVS-SEMARNAT). Among them, 34 had authorized harvest (captive bred) between 2005 and 2015, only 10 of these harvested with commercial purposes, and from these, only 5 have exported. The captive population in Mexico is approximately 28,000 specimens, and annual harvest (captive bred) is close to 4,500 individuals. Potential production in captive breed facilities is around 15,700 individuals and 6,800 skins per year (5,600 for international trade).

4. Publications

Aguilar-Olguín S.; Rivera-Rodríguez, M. C.; Domínguez-Laso, Jerónimo; Hernández-Hurtado, H., 2015. Percepción de la Sociedad Cooperativa de producción pesquera “Laguna de Alcuzahue” sobre el cocodrilo en la laguna de Alcuzahue, Tecoman, Colima, México. 1er Simposio Nacional "Cocodrilianos del Pacífico", 17 de Junio, San Blas, Nayarit; CUC // COMAFFAS AC (En Prensa)

Charruau, P. and C. Niño Torres. 2014. A third case of amelia in Morelet´s crocodile from Yucatan Peninsula. *Diseases of Aquatic Organisms* 109:263-267.

Charruau, P. and R. González-Muñoz. 2016. Epibiont sea anemones inhabiting the American crocodile *Crocodylus acutus*. *Marine Biodiversity* 46(1):11-12.

Domínguez–Laso Jerónimo y J. M. Gonzalez-Villa, 2015. Mitigación de los riesgos en la interacción hombre–cocodrilo y propuestas de conservación del C*rocodylus acutus* en los esteros de Lázaro Cárdenas, Michoacán. 4º Congreso Nacional sobre la Investigación y Conservación de Anfibios y Reptiles (AICAR). 3 al 6 de noviembre Villahermosa Tabasco.

Domínguez-Laso, Jerónimo, 2015. Situación actual del Cocodrilo de Río (*Crocodylus acutus*) en México. 1er Simposio Nacional "Cocodrilianos del Pacífico", 17 de Junio, San Blas, Nayarit; CUC // COMAFFAS AC (En Prensa)

Domínguez-Laso, Jerónimo. 2014. Programa Crocodylia COMAFFAS AC: situación actual de las tres especies de cocodrilianos de Chiapas, México. X Congreso Latinoamericano de Herpetología; Simposio Crocodilidos colombianos. 1 al 5 de diciembre. Cartajena, Colombia.

Gualberto Pacheco-Sierra, Zachariah Gompert, Jerónimo Domínguez-Laso, Ella Vázquez-Domínguez, 2015 (En Revisión). Genetic and morphological evidence of a geographically widespread hybrid zone between two crocodile species, *Crocodylus acutus* and *C. moreletii*; Molecular Ecology, 30 pp (En Prensa)

Pacheco-Sierra, G. J.; Vázquez-Domíngue, E.; Gompert, Z. y Domínguez-Laso, Jerónimo. 2014. Natural hybridization between *Crocodylus moreletii* and *C. acutus*: the first step

towards a speciation event of crocodiles in Mexico?. X Congreso Latinoamericano de Herpetología; Simposio Crocodilidos colombianos. 1 al 5 de diciembre. Cartajena, Colombia.

Pacheco-Sierra, G., Z. Gompert, J. Domínguez-Laso, E. Vázquez-Domínguez. (2016) Genetic and morphological evidence of a geographically widespread hybrid zone between two crocodile species, *Crocodylus acutus* and *C. moreletii*. *Molecular Ecology* (in press).

Platt, S.G., P. Charruau and T. Rainwater. 2014. Scavenging of crocodile eggs by vultures (*Cathartes aura* and *Coragyps atratus*). *Bulletin of the Texas Ornithological Society* 47(1-2):37-40.

Rivera-Rodríguez M.C, S. Aguilar-Olguín, Jerónimo Domínguez-Laso, H. Hernández-Hurtado, G. Pacheco-Sierra, P. Hernández Hurtado, M. Celis-Ortega, R. Robles-García, 2015. - Experiencias y resultados del equipo de trabajo S.O.S. Cocodrilos Colima. 1er Simposio Nacional "Cocodrilianos del Pacífico", 17 de Junio, San Blas, Nayarit; CUC // COMAFFAS AC (En Prensa)

Semarnat/DGVS, Oct 2014, Anexo A, Plan de Manejo Tipo para la Conservación y Aprovechamiento Sustentable del Cocodrilo de Pantano (*Crocodylus moreletii*) en México. Primera edición.

Semarnat/DGVS, Oct 2014, Plan de Manejo Tipo para la Conservación y Aprovechamiento Sustentable del Cocodrilo de Pantano (*Crocodylus moreletii*) en México. Primera edición.

Thomas-Muñoz, J.; Rivera-Rodríguez, M. C.; Aguilar-Olguín, S. y Domínguez-Laso, Jerónimo, 2015. Diagnóstico de la población de *Crocodylus acutus* (cuvier 1807) y su relación con las actividades humanas en la laguna Valle de las Garzas, Manzanillo, Colima, México. 1er Simposio Nacional "Cocodrilianos del Pacífico", 17 de Junio, San Blas, Nayarit; CUC // COMAFFAS AC (En Prensa)

Trujillo-Martínez, A. D. y Domínguez-Laso, Jerónimo, 2015. Evaluación Poblacional del Caimán (*Caiman crocodilus*) y el Lagarto Real (*Crocodyus acutus*) durante el ciclo 2014 - 2015, en dos Sistemas Estuarinos en la Costa de Chiapas. 1er Simposio Nacional "Cocodrilianos del Pacífico", 17 de Junio, San Blas, Nayarit; CUC // COMAFFAS AC (En Prensa)

5. Other issues

Lead	Activities
Pierre Charruau	Collaborator in the Manual of good practice for swimming and photography with American crocodile (*Crocodylus acutus*) in Banco Chinchorro, Quintana Roo, developed by CONANP.
Jerónimo Domínguez (COMAFFAS, A.C.)	Participation in the celebration activities of the 15th aniversary of the UMA Reptilario “Cipactli” of the University of Guadalajara. Puerto Vallarta, Jalisco. June 2015.
	Attention and rescue of 20 crocodiles and caimans at risk in Chiapas, in collaboration with PROFEPA to relocation or recovery of specimens.
	Support to PROFEPA on rescuing Crocodylus acutus of Park “Amikúu”, located inside the National Park “Cañón del Sumidero), Chiapas. July 2014.
Manuel Muñiz	Advice to RESP on welfare of crocodiles and pythons activities
	Acquisition of images of hatchlings for traceability pilot testing of RESP
	Formal conformation of the “Crocodilian producers association of Mexico, A.C.”
Gualberto Pacheco	International Biogeography Society. 7th Biennial Conference. University of Bayreuth, Germany. Presentation on "*Extensive and*

	rapid hybridization between Crocodylus moreletii and C. acutus throughout their distribution along the Gulf of Mexico and the Caribbean". Del 8 al 12 de enero del 2015.
	X Latinoamerican Congress on Herpetology. Cartagena de Indias, Colombia. Presentation on "Natural hybridization between *Crocodylus moreletii* and *C. acutus*: The first step towards a speciation event of crocodiles in Mexico?" Winner of recognition to best oral presentation in the crocodilian symposium. 1-5 Dicember 2014.
	Conference on "Hybridization and speciation in crocodiles: a genetic and morphological approach" at the 15th anniversary of the UMA Reptilario "Cipactli". 17 June 2015
	Conference on "Crocodilian Genetics in Mexico: an overview towards hybridization" at the 1st national symposium on Pacific Crocodilians. Escuela Nacional de Ingeniería Pesquera, San Blas, Nayarit. June 2015
	Conference on "Morphological and genetic evidence of hybrid individual expansion between C. acutus and C. moreletii" at the Seminar on Biology of the IPM. 14 February 2015
Edgar Sarmiento (instructor on Monitoring and Management of Crocodilians)	Participation and collaboration in the Development of Scientific Exploration in Chiapas (2015, 480 hrs of research). Core Zone Palmarcito and La Encrucijada, Biosphere Reserve "La Encrucijada", Chiapas. 11-20 August 2015
Edgar Sarmiento (La Encrucijada Biosphere Reserve)	Attendance and participation at the Forum on Knowledge and Conservation of Crocodilians in La Encrucijada Biosphere Reserve, Universidad de Ciencias y Artes de Chiapas, Campus del Mar, Tonalá, Chiapas. 25 February 2014. Importance of crocodilians within Chiapas wetlands (Biol. Edmundo Aguilar López Director of the Reserve); Current situation and population trend of crocodilians in La Encrucijada Biosphere (M. V. Z. Luis Sigler The Dallas World Aquarium); Human-crocodile interaction (Biól. Edgar Sarmiento Marina).
	Attendance and participation at the Course-workshop on conservation and management of crocodilians (3rd Mexican Congress on Wetlands Ecosystems). Puerto Vallarta, Jalisco. 24-27 September 2014. Conference on "Conservation of key species in wetlands of La Encrucijada Biosphere Reserve, Chiapas", "Wild populations of crocodilians in La Encrucijada Biosphere Reserve, "Current situation of human-crocodile conflicts at La Encrucijada Biosphere Reserve".
	Attendance and Participation as Speaker in the XXXII Symposium on Wildlife "General MV Manuel Cabrera Valtierra" 7-9 October 2015 Mexico City, UNAM. Conferences on "Seminars on environmental reduction risk and conflicts with crocodilian stocks in La Encrucijada Biosphere Reserve" (Biól Edgar Sarmiento Marina); *Crocodylus acutus* in La Encrucijada Biosphere Reserve, Chiapas, Mexico. Prospects for Conservation and Use Sustentable" (Luis Sigler, the Dallas World Aquarium, and Edgar Sarmiento); Laguna Lagartos: a sample of abundant can *Crocodylus acutus* be in La Encrucijada Biosphere Reserve, Chiapas (Edgar Sarmiento, Biosphere Reserve La Encrucijada)
	Attendance and participation at the workshop "Capacity building on reducing conflicts with wildlife". 26-28 October 2015.

	Queretaro, Queretaro. Presentation on "Environmental conference for reducing risk and conflicts with crocodilians stocks in La Encrucijada Biosphere Reserve, Chiapas, Mexico".

References

Sánchez Herrera, O., E. Rivera-Téllez, G. López Segurajáuregui, A. García Naranjo Ortiz de la Huerta, y H. Benítez Díaz. 2015. Informe del Programa de Monitoreo del Cocodrilo de Pantano en México, Temporadas 2011 a 2013. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad. México 36.pp http://www.biodiversidad.gob.mx/planeta/cites/Pdf/Informe%202012-2013.pdf

Sánchez Herrera, O., G. López Segurajáuregui, A. García Naranjo Ortiz de la Huerta y H. Benítez Díaz. 2011. Programa de Monitoreo del Cocodrilo de Pantano (Crocodylus moreletii) México-Belice-Guatemala. México. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad. México. 270 pp. http://www.conabio.gob.mx/institucion/cooperacion_internacional/doctos/manualf_monitoreo_cocodrilo.pdf

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Sánchez, O. and J. G. Álvarez-Romero. 2006. Conservation Status of the Morelet´s Crocodile (Crocodylus moreletii) in Mexico: a proposal for its reclassification in the U.S. Endangered Species Act (ESA). In: Crocodiles. Proceedings of the 18th Working Meeting of the Crocodile Specialist Group, IUCN – The World Conservation Union, Gland, Switzerland and Cambridge UK.

Paraguay

Prepared by: Frederick Bauer, Martha Motte, Diego Bueno (April 2016)

In April 2014 a project for scientific initiation on the "Status of the populations of caimans in 6 locations in Paraguay" was prepared and submitted to the National Council of Science and Technology (CONACYT) through the Faculty of Natural Sciences (FACEN) of the National University of Asunción (UNA). It was approved in December of the same year. This project is to estimate the abundance and age structure of caimans in different locations of the following departments: Central, Concepción, Cordillera, Ñeembucú and Presidente Hayes. Currently the administrative procedures are being finalized by the FACEN to start with field activities this year.

With some frequency regulatory officials of the Environment Secretariat carry out checks on the main accesses from traditional hunting and fishing areas to the capital (Transchaco route). At one of these controls in mid-February 2016 they seized from one vehicle 5 slaughtered *Caiman yacare*, and which were referred by the Department of Wildlife to the National Museum of Natural History of Paraguay for safekeeping. Backgrounds on the fact were sent to the Public Prosecutor for investigation.

On 8 March 2016 abc-color newspaper reported that at a police post in the town of Tte. Esteban Martinez, Paraguayan Chaco, three people were arrested in a routine check for being found in possession of about 200 kg of bushmeat, specifically "rabbit and yacaré" (*sic*.).

According to reports from, the stock of *C. yacare* skins from the 2001-2003 harvests have almost been entirety exported, except for a small amount of a single trader. After this one last export, the country will remain with zero stock.

In conversation with the CITES Management Authority-Paraguay, we were informed of the intention to enable the internal trade of manufactured goods from scraps of leather which due to their quality or state neither were nor can be exported.

Peru

Information compiled by Alfonso Llobet[2]

The systematization of the available literature on crocodilians, generated from research conducted in Peru was published "online". This work was done at the request of MINAM with the support of USAID. A second version for digital distribution is available at the following address: http://cdc.lamolina.edu.pe/Descargas/especies/EstadoConocimientoCaimanes.html

This work was the beginning of a series of activities promoted by the MINAM, activities aimed at eventual sustainable use of *Caiman crocodilus* in the Peruvian jungle. The second activity was the design of a program for the evaluation of the populations of crocodilians in Peru which included workshops in Lima and Iquitos and where local specialists and members of the CSG participated.

During 2014 and 2015 Caiman population surveys were performed in the RN Pacaya Samiria and the RN Pucacuro and end with the adoption in December 2015 of two separate management plans for communal use of white caimans (*C. crocodilus*) in these Natural protected Areas.

After coordination that lasted most of 2015, finally MINAM approved the start of population-based study of species of crocodilians in Peru. These studies will be executed during 2016 by the Foundation for Agrarian Development of the Universidad Nacional Agraria La Molina. This work considers the assessment of the Tumbes river basin *Crocodylus acutus* and three sample blocks in the department of Loreto.

Dr Richard Bodmer continues the assessments on the effects of climate change. The monitoring of wildlife in the river basin Samiria is being conducted, evaluating changes in the abundance of *M.niger C.crocodilus* and *P.trigonatus* in the rainy season and dry season.

Publications.

Freitas, D. 2014. Evaluación del estado de las poblaciones de *Caiman crocodilus* y *Melanosuchus niger* en la cuenca media del rio Samiria – Reserva Nacional Pacaya Samiria. Loreto – Perú. Tesis de Licenciatura. Universidad Científica del Perú, 2014. 57p.

[2] We would like to express thanks for the Information provided (in alphabetic order) by: Ana María Trelancia, Dani Enrique Rivera Gonzalez, Flavio Miguel Saldarriaga, Germán Chávez, Gianmarco Rojas, Pedro G. Vasquez Ruesta, Roberto Elias Piperis,

Freitas, D. 2014. Evaluación poblacional de caimanes en la cuenca del río Pucacuro, Reserva Nacional Pucacuro. Loreto – Perú. Iquitos, 16 p.
Grupos de manejo de la cuenca del rio Samiria. 2015. Plan de manejo integral de Lagarto blanco (*Caiman crocodilus crocodilus*) para la cuenca samiria, Reserva Nacional Pacaya Samiria (RNPS), 2015-2019. Con el apoyo del CSG. Iquitos, 51 p
Cazadores Kichwas de las comunidades de 28 de Julio, Alfonso Ugarte, Santa Elena y Asociación de Cazadores de Intuto. 2015. Plan de manejo de lagarto blanco (*Caiman crocodilus crocodilus*) en la Reserva Nacional Pucacuro. 2015 – 2019. Con el apoyo del CSG. Iquitos, 53 p.
Freitas, J. 2014. Evaluación Poblacional de caimanes en la cuenca del río Pucacuro, Reserva Nacional Pucacuro, Loreto – Perú. Informe de Consultoría, SERNANP/RNP. Diciembre 2014.
Freitas, J; Siroski, P. & P.E Perez-Peña. 2015. Evaluación poblacional de lagarto blanco (*Caiman crocodilus crocodilus*) con fines de aprovechamiento por parte de las comunidades de la región Loreto. Documento técnico de consultoría. .

We would like to express thanks for the Information provided by: Pedro G. Vasquez Ruesta and Diego Freitas,

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Venezuela

Information provided by Alvaro Velasco (March 2016)

1. *Caiman crocodilus crocodilus* wild harvest in Venezuela

   The harvest quota for the last three years showed in the table #1 (Data provided for the National Office of Biological Diversity, Ministry of Popular Power of Eco-socialism and water).

Year	2013	2014	2015
# animals	16,957	17,030	19,386

   The taxes to be paid for licenses to harvest increased each year (table 2).

Year	2013	2014	2015	2016
% Increase	18.89	18.69	18.11	18.00

2. *Crocodylus intermedius* conservation program in Venezuela

   The program is continuing. Table 3 shows the *C. intermedius* released into their natural wild habitats. The data of realize is only from Masaguaral Ranch. The other ranchs (El Frio, Puerto Miranda, El Cedral and UNELLEZ) don't share the information if they finally realize some *C. intermedius*.

Year	2013	2014	2015
C. intermedius released	428	95	100

3. V and VI Course on Ecology and Conservation of Crocodiles in Venezuela

   During March 4 to 6, 2015 and March 2 to 4, 2016 was in Masaguaral Ranch, Guarico state, Venezuela was held the V and VI Course on Ecology and Conservation of Crocodiles in Venezuela, organized by the Crocodile Specialist Group of Venezuela (GECV). It's was attended in each course by 23 students of biology, Zootecnist, Med Vet and Engineer of Natural Resources.

   Next June, GECV will organize a VII Course on Ecology and Conservation of Crocodiles in Venezuela, especially for personal of National Parks and Zoos, where have crocodiles in wildlife and captivity.

4. Incentives for Conservation in Peru.

   After the workshop for the "Socialization of the guide for the national evaluation of Caymans", organized by the Center of Data for the Conservation of the Agrarian University Molina (CDC-UANLM), in coordination with the General Direction of Biological Diversity from the Ministry of the Environment and the Program of Technical Attendance of USAID / MINAM, was made surveys in different areas of the Peru Amazonia, in order to determinate the status of *Caiman crocodilus* population. Those studies have a principal goal to estimate the harvest potential. During the Bolivia harvest season in 2014, Peru sends a biologist to Bolivia to trainer in matter of harvest season.

   The proposal for implement a wild harvest of *Caiman crocodilus* in the Peru Amazonia, at the moment is stopped for administrative decisions.