

State of the turtle conservation program and arribadas on Isla Cañas, Panama

Katherine Comer Santos¹, Brett Birdwell¹, Jacinto Rodríguez Murillo², Edgar Samaniego V³,
Santiago Peres Valdes³, Darbelito Valdes Castro³, Luis Agrazal Melendez³, Annie Hines⁴, Kirsten Moy⁴ and Roldán Valverde⁵

¹ The Science Exchange Sea Turtle Internships, San Diego, CA USA, ² Programa de Conservación de Tortugas Marinas, Fundación Agua y Tierra, Península de Azuero, PANAMA

³ Isla Cañas Tours, Los Santos, PANAMA, ⁴ Peace Corps, Isla Cañas, PANAMA, ⁵ Department of Biological Sciences, Southeastern Louisiana University, Hammond, LA, USA

Introduction

BIOLOGISTS WANTED!!!!

Isla Cañas turtle program is in a state of crisis.

Panama hosts one of only 11 recognized arribada (a mass nesting event) sites in the world at Isla Cañas on the Azuero peninsula. Historical observations of 5,000-12,000 nesting turtles per arribada from August through December on Isla Cañas have been published Evans and Vargas (1996), although to date no systematic monitoring program has been implemented.

Our goal was to conduct the first strip transect in time (STIT) censuses of this population from July 2 to Sept 27, 2013. However, the arribadas expected to start in July never occurred. Islanders and the government staff at Autoridad Nacional del Ambiente (ANAM) de Panama that we interviewed reported that this is the first year that no arribada occurred since 1980. Meanwhile, nearby Marinera Beach reports four delayed "mini-arribadas" in late April, late July, mid-August, and early October totaling 45,000 turtles. Have the turtles changed beaches?

Despite being decreed a Wildlife Refuge in 1995, adopting a community-based management plan for sea turtles in 1999, and a national moratorium on egg harvest since 2008, we observed nearly 100% poaching of solitary nests during the study period. This is higher than the estimated 90% poaching in the early 1990's when a legal harvest program existed on the Island (Cordoba, 1999).



Isla Cañas and Marinera

STIT Methods

Our turtle teams patrolled most of the 14 km beach nightly or every other night. Brett Birdwell interviewed locals and experts on arribadas and poaching. We held a workshop for Peace Corps Volunteers, local members of the Ecotourism group, The Science Exchange interns, and National Environmental Authority (ANAM) government staff. They received training by biologists on the internationally standard protocol for estimating arribada size - the strip transect in time method (STIT) (Valverde and Gates 1998). Teams around the world have been successfully implementing the SWOT approved methods at other arribada beaches (La Escobilla, Ostional, Nancite, India). We assembled the equipment and measured 50-2 transects in the 1 km of peak nesting area at the north end of the island. The equipment was left with the Isla Cañas tours volunteers for future arribada surveys. If the arribadas return, 10 years of surveys are recommended.



Training workshop on STIT methods
July 2013



The Poaching Problem

We observed nearly 100% poaching of solitary nests during the study period. We observed locals and tourists eating turtle eggs, a traditional dish, and taking them off the island to sell. The going rate is US\$1 per dozen eggs, up from \$0.50 in 1995 (Cordoba, 1999). Locals we interviewed suggested that the moratorium on sea turtle egg harvest and the presence of ANAM authorities and police on the beach are not deterrents to the illegal harvest.



"I witnessed people eat turtle eggs openly in the bars and in their homes. I saw people eat them raw and also soft boiled in a soup. Many people gladly showed me their sacks full of poached eggs they intended to sell. The demand is high for turtle eggs and the people I asked told me the eggs make their way as far as Panama City and throughout the whole country. Also it is not just the local community that poaches the beach, but people who live elsewhere in the Azuero peninsula that come to Isla Cañas to freely poach turtle eggs."
The Science Exchange Intern Brett Birdwell

"I never once saw the police, ANAM, or anyone else stop a poacher from taking a nest even though it is illegal to take turtle eggs in Panama. In fact, it's common courtesy among poachers that if you see a poacher standing by a nest to move on because he/she has already claimed it. Many people who poached were quite open and let tourists and other people watch the turtle lay the eggs and waited for them to leave before they took the eggs." The Science Exchange Intern Brett Birdwell



left to right: Local transportation, poached eggs and dishes, hawkbill turtle (Coiba), Jacinto Rodríguez measuring a turtle before her eggs were poached

Management

The only data provided to us by ANAM were collected from 2003 to 2005 and suggest lower hatching success from the hatchery than those left in situ, and a high harvest rate (see table). Currently, ANAM keeps no records for the hatchery. During the study period, on rare occasions if a poacher was not present, the nest was relocated on the beach by the turtle team. ANAM authorities started monitoring the beach in August, but did not stop poachers. In August and September 2013 ANAM reportedly translocated 68 nests to an unfenced hatchery, burying nests ~40 cm apart and ~10 cm deep (denser and shallower than recommended). We checked 21 marked nests but only five had eggs, indicating that perhaps these nests were also poached or never translocated. Historically the hatchery was a source of eggs for poachers, and we feel this is still the case since it is unfenced and not continuously monitored.

Year of ANAM record	Nests on beach	Nests in hatchery	Hatchlings on beach	Hatchlings in hatchery	Hatching success in the hatchery	Hatchling success on the beach	Eggs harvested (dozens)	~Nests harvested	% of nests harvested
2003	5,798	1,171	153,990	0	0%	33%	35,056	4,207	60%
2004	5,069	1,605	66,159	6,500	5%	16%	32,304	3,876	58%
2005	6,651	1,618	107,960	15,270	12%	20%	41,051	4,926	60%

ANAM hatchery with no protection



Blue columns from ANAM records, yellow derived by the authors

Conclusions and Recommendations

Unfortunately due to reasons unknown, there were no arribadas during our study period so we cannot provide the baseline population estimate as we hoped. However, our report on the state of the turtle program may help draw attention to this remote and unstudied area that is experiencing severe poaching problems.

The program lacks technical training in hatchery management and monitoring methods, enforcement of anti-poaching laws, and there is an urgent need for an educational outreach campaign. We encourage government agencies and non-profits to support the small but enthusiastic turtle conservation group (Isla Cañas Tours) that is working hard to save this globally-important arribada population.

Nearby Marinera beach has researcher facilities and logistical support from government staff at the Autoridad de Recursos Acuáticos de Panamá. Host families are available for researchers and volunteers on Isla Cañas. For questions about working in this beautiful area contact kirstenvmoy@gmail.com.



Literature

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Contact information

Katherine Comer Santos
The Science Exchange
San Diego, CA 92116 USA
(619) 519-9876
info@thescienceexchange.org
<http://www.thescienceexchange.org>

Kirsten Moy, Peace Corps
Guanico Abajo, Los Santos, Panama
kirstenvmoy@gmail.com

Edgar Samaniego, Isla Cañas Tours
(507) - 6753 - 5622