



GAMBOA RAINFOREST BY KATJA SCHULZ

PANAMA



Professional Development for STEM Education Leaders
With Page Keeley and Joyce Tugel

June 28 – July 9, 2018

At the junction of two continents and the gateway to two oceans, Panama has long been appreciated for its strategically important canal, but the country's extraordinary natural riches foster intimate engagement with tropical science. On this 11 day expedition with leaders in STEM Education, you'll learn about ongoing research and conservation efforts for the unique birds, butterflies, amphibians, and marine wildlife that call Panama home. Expand your knowledge with the help of Smithsonian researchers. Discover the splendor of a tropical ecosystem at Barro Colorado Island—the largest forested island in the Panama Canal waterway. Explore tropical biodiversity through the rich endemic and migratory species of birds found throughout the country. Visit a private education program, known for their exceptional science instructional models. For a country that's a little smaller than South Carolina, Panama offers us a discovery in STEM education through a comprehensive scientific exploration of the country!

PROGRAM HIGHLIGHTS

- Explore marine science research priorities in Bocas del Toro at the Smithsonian Field Station.
- Visit Barro Colorado Island, one of the most important tropical research sites in the world.
- Observe the biodiversity of neotropical birds, as Panama is a premier birding destination and home to 900+ species.
- Stroll through Panama City and learn about the many cultural influences that shaped its history.
- Engage with local science education during a visit to the Brader School.
- View first-hand the engineering marvel that is the Panama Canal with a tour of the Miraflores Locks.

ITINERARY

BLD = BREAKFAST, LUNCH, DINNER

JUNE 28 - PANAMA CITY

Upon arrival at the airport you will be met and transferred to your hotel. *Overnight at Crowne Plaza Hotel.*

JUNE 29 - PANAMA CITY

Meet for breakfast and orientation at 7 am in the hotel restaurant. After breakfast, visit the Brader School, a local private school where you will meet with Professor Ileana Cotes to learn what kinds of tools are used to promote science in the classrooms and encourage children to pursue a career in science. Next visit Panama City's Biomuseo, where art meets science! The building is situated on the Amador Causeway and was designed by Frank Gehry to tell the story of how the isthmus of Panama rose from the sea, uniting two continents, separating a vast ocean in two, and changing the planet's biodiversity forever. Experience a special behind-the-scenes tour with Curator of Exhibitions Dr. George Angehr, a researcher at the Smithsonian Tropical Research Center and author of "The Birds of Panama: A Field Guide." After your visit, continue to the Miraflores Locks where you will have lunch and learn about the operations and importance of the Panama Canal. Explore the Visitor Center to view the locks as ships pass through and enjoy the museum's interactive displays. After you return to your hotel, there will be an evening lecture before dinner that will provide an overview of Panama. *Overnight at Crowne Plaza Hotel. (BLD)*

JUNE 30 - GAMBOA

This morning depart early for a boat journey to Barro Colorado Island in Gatun Lake, the largest forested island in the Panama Canal waterway, where you will have the opportunity to discover the splendor of a humid tropical forest. Since 1923, the island has been administered by the Smithsonian Tropical Research Institute. Enjoy walking the trails to observe plants, mammals, birds, amphibians, reptiles, and insects and learn about the fascinating research going on here. After your hike, return to the field station for lunch and a lecture by a Smithsonian researcher. Continue to Gamboa to settle into your comfortable rooms later this afternoon. *Overnight at Gamboa Rainforest Resort. (BLD)*

JULY 1 - GAMBOA

Spend the morning seeking out diverse Neotropical bird species at the famous Pipeline Road. Next visit the Rainforest Discovery Center in neighboring Soberania National Park. The Panama Rainforest Discovery Center is an ecotourism and environmental education project administered by the Fundación Avifauna Eugene Eisenmann, whose objective is the conservation of birds through environmental sustainability projects. Continue to the Summit Botanical Gardens and Zoo to meet with Summit Park Director Edgard Arauz and learn about local conservation efforts. Continue to Gamboa to ride the aerial tram late this afternoon. *Overnight at Gamboa Rainforest Resort. (BLD)*

JULY 2 - GAMBOA

After breakfast depart the hotel for a visit to the Emberá Indigenous Village to meet the Emberá Indians, one of seven indigenous tribes in Panama. Upon arrival at Lake Alajuela, will board small boats that will take you up the Rio Chagres through the dense jungle. You will be greeted by the Emberá people as you pull ashore. Before enjoying a traditional lunch made by the Emberá women, the chief will give a brief explanation on the history of the tribe, its traditions, culture,

beliefs, and handicrafts. After lunch, experience a traditional Emberá dance, have the opportunity to shop for handicrafts, and get a temporary Emberá tattoo painted on your arm or leg. Later, depart Emberá Village and return to Gamboa for dinner. *Overnight at Gamboa Rainforest Resort. (BLD)*

JULY 3 - BOQUETE

After breakfast transfer to Albrook "Marcos A. Gelabert" International Airport for your flight to Chiriquí Province. Upon arrival you will transfer to your hotel with lunch en route. This afternoon enjoy some free time at the hotel before having a lecture on Pollination and Biodiversity in Boquete. *Overnight at Valle Escondido Resort. (BLD)*

JULY 4 - BOQUETE

After breakfast transfer to Volcan Barú National Park to explore Panama's geologic past. Return to hotel for lunch. This afternoon, visit the town of Boquete and the local market for cultural understanding and exchange. Later transfer to a local coffee plantation for a visit to a sustainable coffee farm and learn about the importance of pollination and sustainable farming. *Overnight at Valle Escondido Resort. (BLD)*

JULY 5 - BOCAS DEL TORO

Depart early for the transfer to Punta Robalo. Here you will bid farewell to your guide until your return to Panama City. Meet the naturalist guide from Tranquilo Bay and board a small motorboat for a 45-minute ride to your lodge for a late lunch. The afternoon will be free time for optional activities, including birding, kayaking, or snorkeling. *Overnight at Tranquilo Bay Lodge. (BLD)*

JULY 6 - BOCAS DEL TORO

After breakfast at the lodge travel to the Bocas del Toro Smithsonian Field Station. Meet with Rachel Collin, who is the STRI Staff Scientist and Director of the Bocas del Toro Research Station. She will lead you through a tour of the facilities and discuss ongoing research being done at the station. Lunch will be at Buena Vista on Isla Colón. Later transfer back to the lodge for dinner. *Overnight at Tranquilo Bay Lodge. (BLD)*

JULY 7 - BOCAS DEL TORO

This morning, Tranquilo Bay owner Jim Kimball will give a talk about research being done in the area. Later you will meet with sea turtle researchers Anne and Peter Meylans or their research assistants, who will take you to their research site on the Zapatilla Keys for a possible demonstration on the type of data collection they conduct on sea turtles in the field. Return to the lodge for lunch, then have an afternoon walk to a winding spring creek, a favorite spot for late afternoon hummingbird bathing. *Overnight at Tranquilo Bay Lodge. (BLD)*

JULY 8 - PANAMA CITY

Travel to the Bocas del Toro airport this morning for the midday flight back to Panama City. This afternoon, visit the Metropolitan Park for a guided hike and the unique opportunity to experience an aerial view of the park via the Smithsonian Tropical Institute Canopy Crane (at additional cost). For those not inclined to ascend the Canopy Crane, a guide will be available to provide interpretation of the park's abundant flora and fauna. Early farewell dinner with folkloric dancing at Las Tinajas. *Overnight at Crowne Plaza Hotel. (BLD)*

JULY 9 - RETURN TO THE U.S.

Transfer to the airport for flights back to the U.S. (B)

PROGRAM PRICING

\$3,700.00 (based on 28 participants)

Single Supplement: \$660.00

Cost inclusions:

- All Accommodation
- Activities
- Expert Lectures and Behind the Scenes Visits
- In-Country Transportation
- Meals, including Non-Alcoholic Beverages
- Internal Flights
- Full Time Guide for Duration of Program
- All Gratuities for Guide and Driver

With the minimum of 14 participants, price will be \$4,150 per person. Cost does not include items of a personal nature, or international airfare. International airfare is estimated at \$875-\$1,200 dependent on your departure city.

THE FINE PRINT

Price is based on double occupancy. A \$200 per person deposit and enrollment form is required to secure your space on the trip. This deposit is refundable until February 28, 2018 excluding a \$100 cancellation fee. Final payments are due no later than March 25, 2018. Travel/trip cancellation insurance is strongly recommended. For more information call Travel Insured at 800-243-3174. Holbrook Travel's agency number is 15849.



For more information or to enroll:

Contact Sandy Doss at
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206-604-5715 (c)

ABOUT OUR LEADERS



Page Keeley and **Joyce Tugel** are nationally known leaders in STEM education and professional development. As former colleagues at the Maine Mathematics and Science Alliance, they provide professional development to school districts and projects throughout the U.S. and are frequent speakers at national conferences. Both are recipients of several national awards and Keeley's numerous science and mathematics publications (included two books co-authored with Tugel) are used in schools and universities throughout the U.S. and internationally. Both have served as Board members of the National Science Education Leadership Association (NSELA) and National Science Teachers Association (NSTA). Keeley served as the 63rd President of NSTA.



Photos by Greg Basco, Steffi Lopez, M M