

Florida Bat Working Group – 2023 Annual Meeting

We look forward to seeing you at this year's Florida Bat Working Group Meeting in Live Oak, Florida.

LOCATION:

The meeting will be held in the Young Conference Room at [Camp Weed Conference Center](#). For [directions](#) please see the Camp Weed website for "Getting There"; follow directions once you arrive at the Cerveny Conference Center.

START & END TIME:

Tuesday, March 28th at 1:00 pm to 5:00 pm

Wednesday, March 29th at 9:00 am to 4:00 pm

Please arrive early to get settled, we will start the meeting promptly at 1pm and 9am, respectively.

MEALS and LODGING:

On-site lodging and meals are only available to those who pre-registered prior to the deadline. All others should bring snacks as needed and a lunch on Tuesday. Complimentary coffee, tea, and water will be available. If you reserved lodging, you have been pre-assigned a room; check-in is 4pm, check-out is 11am.

WHAT TO BRING:

We recommend bringing a laptop (Wi-Fi is available), any bat resources to share, and all your bat knowledge! There will be opportunities to work in subcommittees to further fulfill the mission of Conserving Florida's Bats. NO pets are allowed at Camp Weed.

Other FUN things:

Tuesday night we will have an opportunity to network around the campfire. Bring your bat detector if you want to wander around the lake! Talk to NABat reps about FBB data submission! Responsible consumption of alcoholic beverages is allowed. Everyone is welcome, even if you are not staying the night at Camp Weed.

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the Florida Bat Working Group is
Ensuring a bright future for Florida's bats



Our mission is to
conserve
Florida's bats
through
collaborative
research,
management,
& education
among
agencies,
organizations,
& individuals.

find us @ "Florida Bat Working Group" 

Tuesday, March 28, 2023	
12:00 pm	<i>Lunch (meals available in Dining Hall for those who pre-ordered)</i>
12:45	Meeting check-in at Young Conference Room
1:00	Welcome from Planning Committee and FLBWG Chair
1:10	Introductions
2:00	Plenary talk: "Threats, challenges and sustainable strategies for bat conservation" <i>Jon Flanders (Bat Conservation International)</i>
2:50	NABat range update activity - <i>Liz Braun de Torrez (FWC)</i>
3:00	<i>Break (15 minutes): Complimentary Coffee, Tea and Water Service in Lounge</i>
3:15	"The diet of the Florida bonneted bat in an urban environment" <i>Stephanie Brinez (BCI)</i>
3:30	"The new data framework for Florida bonneted bat regulatory data: applications to aid conservation" <i>Laura D'Acunto and Roxy Pourshoushtari (USGS)</i>
4:00	Business Meeting Part 1: General business (Charter, Committee Formation, Membership Information) and 2022 Committee Updates
4:55	Wrap-up & evening agenda
5:00	Meeting Day 1 concludes. Roxy & Laura will be holding NABat office hours before dinner if you need help with Florida Bonneted Bat data submission!
6:00	<i>Dinner (meals available in Dining Hall for those who pre-ordered)</i>
7:30	Networking around the campfire and SonoBatLIVE with John Chengler. He will go over acoustic monitoring procedures and set up. Bring your bat detector!



Wednesday, March 29, 2023

8:00 am	<i>Breakfast (meals available in Dining Hall for those who pre-ordered)</i>
9:00	Day 2 Welcome: logistics and review agenda
9:10	“Roosting habits of Florida bats: a summary” <i>Lisa Smith (FWC)</i>
9:30	“To bat house or not to bat house” <i>Frank Ridgley (Zoo Miami)</i>
9:50	“Get a move on: bat exclusions & the UF bat house” <i>Shelly Johnson (UF/IFAS)</i>
10:00	<i>Break (15 minutes): Complimentary Coffee, Tea and Water Service in Lounge</i>
10:15	“Tricolored bats: the basics and a discussion of the path forward” <i>Rain Ketzler (FWS)</i>
10:45	“Picayune Strand restoration and the tricolored bat” <i>Liz Braun de Torrez (FWC)</i>
11:00	Lightning talks and Open Discussion
12:00 pm	<i>Lunch (meals available in Dining Hall for those who pre-ordered)</i>
1:00	“Classifier craziness and using SonoBat to review recordings” <i>John Chengler (Bat Conservation and Management, Inc.)</i>
1:30	Business meeting Part 2: FLBWG Treasury Report, Secretary Report (Communication/Google Drive)
2:00	Subcommittee Breakouts (choose 1 group)
3:00	Subcommittees report out on 2023 goals
3:20	FLBWG election results and wrap-up
4:00	Concludes 2023 FLBWG Meeting



[Scan the QR code to visit the Florida Bat Working Group webpage!](#)

2021-2023 FLBWG Board of Directors

- Chair: Emily Evans (FWC) Emily.Evans@MyFWC.com
 - Past-Chairs
 - Terry Doonan (FWC) terry.doonan@myfwc.com
 - Donna Bear (Jacksonville Zoo) beard@jacksonvillezoo.org
 - Secretary: Shelly Johnson (UF) shelly.johnson@ufl.edu
 - Treasurer: Liz Braun (FWC) elizabeth.braun@myfwc.com
- Members At Large
- Verity Mathis (UF) vmathis@flmnh.ufl.edu
 - Lisa Smith (FWC) Lisa.Smith@myfwc.com
 - Jeff Gore (FWC, retired) jagore@comcast.net

2022 FLBWG Sub-Committees

- Education and Outreach
 - Donna Bear beard@jacksonvillezoo.org
 - Danielle Stanek danielle.stanek@flhealth.gov
- Interagency Partnerships
 - Rain Ketzler lorraine_p_ketzler@fws.gov
 - Laura D'Acunto ldacunto@usgs.gov
- Habitat Management
 - Jess Rodriguez jess.rodriguez@myfwc.com
 - Kim Chase Kimberly.Chase@myfwc.com
- Monitoring
 - Eric Suarez Eric.Suarez@myfwc.com
- Conference Planning
 - Sandra Sneckenberger sandra_sneckenberger@fws.gov
 - Elena Suarez casuarez@broward.org
 - Verity Mathis vmathis@flmnh.ufl.edu

Information Resources

Visit the Florida Bat Working Group website: <https://flbwg.weebly.com/>

Email the Florida Bat Working Group: flbatwg@gmail.com

Florida Bat Working Group 2023 Annual Meeting Abstracts

Presenting author is in **bold**

Abstracts are listed based on the order they appear in the agenda

Threats, challenges and sustainable strategies for bat conservation

Jon Flanders, PhD. Director, Endangered Species Interventions Program, Bat Conservation International

Bats are an ecologically and taxonomically diverse group accounting for roughly a fifth of mammalian diversity worldwide. Many of the threats bats face (e.g., habitat loss, fragmentation, climate change) reflect the conservation challenges of our era. However, compared to other mammals and birds, we know significantly less about the population status of most bat species, which makes prioritizing and planning conservation actions challenging. Over a third of bat species assessed by the International Union for Conservation of Nature (IUCN) are considered threatened or data-deficient, and well over half of the species have unknown or decreasing population trends. That equals 988 species, or 80% of bats assessed by IUCN, needing conservation or research attention. Saving bat species will require sustained efforts to assess population status and trends and address data deficiencies. Successful bat conservation must integrate research and conservation to identify stressors and their solutions and to test the efficacy of actions to stabilize or increase populations. Global and regional networks that connect researchers, conservation practitioners, and local stakeholders to share knowledge, build capacity, and prioritize and coordinate research and conservation efforts, are vital to ensuring sustainable bat populations worldwide.

Diet of the Florida bonneted bat in an urban environment

Stephanie Brinez^{1*}, Frank Ridgley² and Melquisedec Gamba-Rios¹

¹Endangered Species Interventions, Bat Conservation International

²Conservation and Research Department, Zoo Miami

*sbrinez@batcon.org

The Florida bonneted bat is a federally endangered species only found in southern Florida in both urban and natural habitats. Diet is critical in multiple elements of the bat's life history and vital to the recovery and conservation efforts of the species. The diet and foraging behaviors of urban bat populations can differ from those in natural habitats. Miami-Dade County has one of the largest Florida bonneted bat populations, and the individuals at Zoo Miami represent the core population for the Southeastern region. Our objective is to identify the prey composition of the Florida bonneted bat in urban settings to design a conservation strategy in anthropogenic environments that increase prey availability. Between June and December 2022, we collected guano samples weekly from under six artificial roosts at Zoo Miami. We collected a total of 93 samples during 17 weeks and used DNA metabarcoding to identify Florida bonneted bat prey composition. We identified three significant orders: Orthoptera, Lepidoptera, and Coleoptera. Our data indicates bats may be preying on agricultural pests from Miami-Dade County farmlands 10-15 miles from the study site.

"The new data framework for Florida bonneted bat regulatory data: applications to aid conservation"

Roxy Pourshoushtari^{1*}, Laura D'Acunto^{2*}, and Sandra Sneckenberger³

¹Cherokee Federal, contracted to Wetland and Aquatic Research Center, U.S. Geological Survey, Gainesville, FL, USA; ²Wetland and Aquatic Research Center, U.S. Geological Survey, Gainesville, FL USA; ³Ecological Services Field Office, U.S. Fish and Wildlife Service, Vero Beach, FL, USA

Through a collaboration between federal, state, local, university, and non-profit partners involved in endangered Florida bonneted bat (FBB) conservation, we developed a new data framework to house range-wide survey data collected for regulatory needs of the U.S. Fish and Wildlife Service. The official use of the framework will launch on April 1, 2023. We organized and entered previous FBB surveys completed for regulatory requirements into the database which forms a range-wide acoustic dataset that can be used to inform conservation and management actions. One such application is the investigation of weather impacts on the ability to detect FBB presence. Currently, survey protocols for regulatory FBB surveys relies on guidance designed for a Midwestern endangered bat species with vastly different ecology than the FBB. We used acoustic survey data collected for regulatory surveys in addition to scientific monitoring data available within the new FBB data framework to explore how wind, precipitation, moon illumination, and temperature impact the ability to detect FBB presence on a landscape. The results will guide USFWS as they reevaluate the appropriate conditions under which a survey night is considered valid or invalid within a regulatory presence/absence survey. By incorporating the North American Bat Monitoring Program (NABat) into the data submission process, the framework ensures that there is continuity across all data sets, thorough metadata collection, and protection for the hard-earned data that has been collected for this endangered species. Furthermore, this modernized data framework will streamline regulatory processes and inform future FBB recovery with the most up-to-date data set available.

SonoBatLIVE Nighttime Activity

John Chengler*, Lori Braet, and Todd Sinander (Bat Conservation and Management, Inc.)
*jchengler@batmanagement.com

John and Lori will demonstrate how the SonoBatLIVE capture software functions and provide tips for making recordings. We will have four devices available to borrow and conduct your own walkabout around the Camp Weed property. Bring a USB drive and take your recordings with you, if desired. If you have your own Windows 10 device, you can install the SonoBat trial on your own, and borrow an extra Pettersson M500 microphone for the evening. Generally, John & Lori will remain around the campfire for questions and maintaining the gear. In addition, we will have some BatScanners available to try, which allow you to hear bats in all directions.

Roosting habits of Florida bats: a summary

Lisa Smith*

Florida Fish and Wildlife Research Institute, FWC

This presentation will provide general information about the roosting ecology of Florida bats. We describe the various roosting locations and behaviors of Florida bat species that include tree cavities, tree foliage, caves, human structures and other miscellaneous crevices that bats can wedge themselves into!

To bat house or not to bat house

Frank Ridgley DVM*, Zoo Conservation and Veterinary Services Manager, Conservation and Research Department, Zoo Miami, Miami FL

*Frank.Ridgley@miamidade.gov

Bat houses, and other artificial cavities, have long been popularized as a way for land managers, conservationists, and citizens to engage in promoting bat conservation. There are many potential pitfalls that can occur when bat boxes are deployed that can range from lack of recruitment to creating a biological trap. There have been many publications highlighting the risks involved in the improper use of bat boxes and reported successes reported by population growth over time. We will profile the greatest factors to consider for the possible application of bat houses, and other artificial structures, such as landscape placement, design, color and reflectivity, materials, orientation, other cavity availability, predators, stochastic events, climate change, and the species being targeted.

Get a move on: bat exclusions & the UF bat house

Shelly Johnson, State Specialized Agent in Natural Resources, IFAS Extension, Dept of Wildlife Ecology and Conservation, University of Florida

Even if you don't mind sharing your home with bats, you might be in a position to communicate with others about humanely managing bats. This presentation will briefly review the steps to safely and successfully conduct a bat exclusion and provide some useful resources which you can share with others. Bats in Florida are protected; it is illegal to intentionally harm them and there are requirements which must be followed to remove bats from buildings and other structures. It is prohibited to conduct an exclusion during maternity season: from April 15 – August 15 each year. Before deciding to exclude bats from a structure, consider if they are actually causing a problem, and contemplate that the bats will disperse to another location (possibly one that is less desirable). If an exclusion is warranted, the steps include: 1) identify where bats are entering and exiting, 2) seal all other openings, 3) install exclusion devices at entry/exit points, 4) wait for at least 4 nights in favorable weather, and 5) confirm all bats have left the structure then seal all openings. In 2022, a large and well-established bat colony needed to be excluded from one of the University of Florida campus bat houses; I will share some of the considerations and challenges encountered during this process.

Tricolored Bats: The basics and a discussion of the path forward

Melinda Turner¹, **Lorraine Ketzler**^{2*}, and Sandra Sneckenberger³

¹Fish and Wildlife Biologist, US Fish & Wildlife Service, Pennsylvania Field Office, State College, PA;

²Fish and Wildlife Biologist/Liaison, US Fish and Wildlife Service, USAF Hurlburt Field, FL;

³Endangered Species Recovery Biologist, US Fish and Wildlife Service, Vero Beach, FL

*Lorraine_p_ketzler@fws.gov

Tricolored bats (*Perimyotis subflavus*), recently proposed for endangered status, have a unique natural history and biology in the Southeastern United States, when compared to the currently listed northern long-eared bats, Indiana bats, and Florida bonneted bats. We will present the information being shared about their natural history by the USFWS. We would like to have a discussion about where data gaps in the presentation exist for populations in the southeast and in FL, and how the FLBWG can contribute to filling those gaps.

South Florida bat community response to Everglades restoration (particularly tricolored bats and Florida bonneted bats)

Laura Nicholson and **Elizabeth Braun de Torrez***

Florida Fish and Wildlife Research Institute, FWC

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Over half of wetlands worldwide are degraded or destroyed. Recognition of their ecological importance has led to increased restoration efforts, but little is known about the impacts on wildlife, and in particular, bats. Understanding how restoration projects affect foraging habitat for bats is particularly important for endangered species such as the Florida bonneted bat (*Eumops floridanus*) and tricolored bat (*Perimyotis subflavus*; proposed endangered). We investigated the effects of a large-scale hydrologic restoration in the Florida Everglades (Picayune Strand Restoration Project) on the south Florida bat community, focusing specifically on landscape characteristics influencing *E. floridanus* and *P. subflavus* foraging activity. We conducted acoustic surveys at 194 points across a restoration gradient (unrestored, partially restored, restored, and reference) in 2020 and 2021, with recordings on 16 nights per point across 4 distinct sampling periods spanning the dry and wet seasons. We also measured hydrologic, vegetation, and temporal characteristics. We found significantly higher species diversity and evenness in the restored zone and higher *E. floridanus* and *P. subflavus* activity in the reference and restored zones. Predictors of activity varied by species but both *E. floridanus* and *P. subflavus* showed positive responses to several characteristics associated with hydrological restoration (e.g., hydroperiod, water depth, freshwater forested wetlands), suggesting that restoration efforts within the Everglades ecosystem may benefit these species. Insights from this study inform immediate management decisions and contribute to our understanding of how bats are influenced by hydrologic restoration.

Classifier craziness and using SonoBat to review recordings

John Chenger*, Bat Conservation and Management, Inc.
*jchenger@batmanagement.com

This demonstration will follow the workflow starting with raw acoustic recordings from any full spectrum bat recorder, and post process them into a preliminary report. We will use various utilities in the SonoBat Data Wizard to remove noise files, add a useful file naming scheme and other metadata, and automatically search for feeding buzzes. We will use the SonoBat Vetting Table to manually confirm project level species presence and generate the final output. At least part of this program will be a live demonstration reviewing real FL data, there is a free version of the SonoBat Viewer available, and there will be a trial version of the full SonoBat package available prior to the event.