

SUBJECT: Bat Management Program	Effective Date: 2/16/18	Procedure Number: FS 2018 FS0029	
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	Responsible Authority: Associate Vice President, Administration and Finance (Facilities & Safety)		

APPLICABILITY/ACCOUNTABILITY:

This procedure applies to all Facilities & Safety (F&S) employees who are involved in addressing nuisances caused by bats.

PROCEDURE STATEMENT:

The purpose of this program is to ensure that all activities undertaken by UCF personnel to address nuisance bats comply with Rule 68A-9.010 (Taking Nuisance Wildlife) of the Florida Administrative Code. This Rule does not allow bat ingress to be excluded from a facility from April 16th through August 16th. This program is an important element in the university’s commitment to provide a safe and healthy campus.

GENERAL INFORMATION:

Bats are beneficial wild animals. Some bat species eat insects and consume up to their weight in food each night. Others are important pollinators. Because bats are mammals, they give birth to live young. Some bat species mate in the fall or winter, but fertilization is delayed and subsequent development of the fetus does not occur until spring. Other species, like the Mexican free-tailed bat (often found on UCF property), mate in the spring. Fertilization and fetal development follow, and pups are born in the spring or early summer (mid-May to August). By late summer, the pups are able to fly and feed on their own.

Bats have been observed in UCF structures when they fly through an open door or window, or become a nuisance when they colonize the voids within walls (usually the space between the concrete exterior wall and the brick façade) where they can live unnoticed for years. A single bat flying in a building is rarely cause for alarm and can be dealt with easily (see Control Options section below). However, a more complex response is required to deal with the situation that arises when bats enter voids through openings on the exterior of buildings. In these instances, someone who sees, hears, or smells the bats should notify the Facilities Operations (FO) Work Control Center (WCC) or Environmental Health & Safety (EHS). Whether the situation involves a single bat or a colony, EHS shall coordinate a response to mitigate the chances of human/bat contact. Specifically, EHS shall either relocate the bat or arrange exclusion of the colony by a contractor. In either instance, a Work Order shall be generated in AiM.

The best way to prevent contact between humans and bats is to exclude bats from buildings. The ideal time to perform these projects is between August and April when the pups are able to leave the roosting places and feed on their own. EHS shall work with FO and a bat removal contractor to achieve this goal. EHS shall also work with Facilities Planning & Construction (FPC) to ensure that, during the design and construction of new buildings, architects, engineers, and crews are vigilant about identifying potential areas where bats can enter a structure, and, when necessary, seal them before the project is completed.

PROCEDURES:

I. Control Options

A. Bat found on ground or inside a building

EHS shall have the following items available for the relocation of the bat: a pair of thick work gloves, a plastic or metal container, and masking or duct tape. The EHS responder shall:

1. Put on the work gloves.
2. Ensure that no one has made contact with the bat.
3. Carefully place the plastic/metal container over the bat, place a sturdy piece of cardboard under the container, ensure that the bat moves into the container, and close the container.
4. Transport the bat to one of the bat houses in the UCF Arboretum.
5. Once at the bat house, carefully place the container on the ground on its side to allow the bat to leave. Bats cannot crawl up slick surfaces and cannot fly off of the ground.

B. Colony or evidence of bats inside building

Evidence of bat activity in a building includes the sound of high-pitched chirping, observing guano (excrement) on the ground, staining and rub marks at active roost entries, and the smell associated with guano and urine. These are nuisance issues indicative of an active colony in a building. Anyone who observes any of the above signs should contact the WCC (407-823-5223) or EHS (407-823-6300) and provide the building name, precise location of the evidence, and his or her name and contact information.

Extreme care shall be taken to ensure that colonies are evicted from university structures in a way that allows all bats to exit the building, while preventing their return. Sealing areas of entry and exit without ensuring that the colony has been totally removed will result in the death of bats in roosting spaces. EHS will coordinate the safe removal of the bat colony with a contractor and notify FO of the date, time, and duration of the project. Upon completion of the project, EHS will open a Work Order Phase for FO to ensure that bats do not reoccupy the structure by verifying the integrity of the building envelope.

Excluding bats always results in the loss of roosts and colony displacement, which then results in their relocation to an adjacent structure. One successful strategy to mitigate this situation is the installation of a bat house in proximity to the excluded structure. This strategy is supported by a study conducted in the Central Florida area by one of EHS's consultants, which shows that bat houses installed prior to exclusion have an occupancy rate of over 90% (Finn, 1997; Finn & Finn, 2012). EHS shall determine if the installation of a bat house is warranted on a case-by-case basis.

When a bat house is installed, FO and Landscape & Natural Resources (LNR) shall be responsible for maintaining it. This maintenance shall include the following activities:

- LNR: Inspections (quarterly)
 - Inspect general condition
 - Determine occupancy
 - Identify any intruders and notify EHS
 - Ensure that the area around and below is free of clutter (e.g., tree limbs, shrubs, and vines)
- FO: Maintenance (every 5-10 years or as needed)
 - Apply a fresh coat of paint to house, pole (if present), and roof
 - Replace metal roof if necessary

C. Preventative strategies

EHS shall work proactively with FPC to ensure that openings on the exterior of new buildings are identified and sealed to prevent bats from entering voids before a building is issued a Certificate of Completion.

EHS shall also conduct periodic inspections of buildings to identify potential entry points. These inspections shall be conducted semi-annually, during early evening (dusk) and just prior to dawn, to locate bats entering or exiting the building. Inspections will look for rub marks (stains left by the oils and dirt rubbing off the bats' hair) at rooflines and behind gutters and for guano at ground level. (In most cases, and if the colony is large enough, the bat entry points will have some guano buildup.) EHS shall use this information to initiate Work Orders through AiM for immediate action.

II. Health Precautions

A. Response to bat bites

Only about one-half to one percent of bats carry rabies virus; however, bats found on the ground or active during the day should be suspected as being rabid. Anyone who has direct contact with a bat in which a bite may have occurred may have been exposed to rabies. If an individual is bitten by a bat, he or she shall:

1. Immediately and thoroughly wash the wound, their hands, etc., with soap and water.
2. Report the incident to EHS (407-823-6300), and, if possible, isolate the bat for retrieval by EHS.

3. Consult a physician for wound care. If testing of the animal confirms rabies, those exposed can start the post-exposure vaccinations soon after receiving the results. If the animal is not available for testing, the physician may determine that post-exposure vaccinations are necessary.

B. Cleaning of colonized voids in buildings

In the event that excessive guano and urine accumulates in a building void, EHS shall work with a contractor to devise and execute a plan to mitigate the situation, following practices used during asbestos abatement or mold mitigation projects.

REFERENCES

Finn, LS, 1997. The use of bat houses in the management of central Florida bats. *The Bat House Researcher*; 5:5-6.

Finn, LS & Finn, TG, 2012. Bat Management: Excluding bats from man-made structures. In Barnard, SM (Editor), *Bats in Captivity*, Volume 4 (pp.227-247). Washington, DC: Logos Press.

Approved By:	Date Approved:
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