

SCIENCE ANNEX EMERGENCY & DISASTER PLAN

SOP #: SA-003

Date adopted: 02/18/2022

Last revision: 03/23/2023

PURPOSE

To establish an emergency preparation and response plan that addresses possible disasters that may impact the animal care and use or animal facilities.

REASON FOR THIS PLAN

Sam Houston State University (SHSU) is committed to ensuring that vertebrate animals used in research are treated in a humane, ethical manner, and with the highest standard of care according to federal, state, and institutional regulations and policies. This plan is intended to provide SHSU's Institutional Animal Care and Use Committee (IACUC), faculty, staff, and students a general plan of action in the event of an emergency or disaster with potential impact to the animals housed on campus.

The intent of this plan is to protect and manage the animals on and/or off campus in the event of an emergency as well as the facilities that house these animals for research purposes. However, under no circumstances should employees put themselves at risk at any time in attempting to implement animal protection procedures. This plan supplements the SHSU Emergency and Disaster Plan as well as the SHSU Business Continuity Plan. All personnel should follow the SHSU Emergency and Disaster Plan procedures and use this plan as a supplement to specifically address vertebrate animal needs or related facilities in the event of an emergency.

PLAN STATEMENT

All personnel must comply with the SHSU Emergency and Disaster Plan. The sections below detail how emergencies will be handled within the Science Annex (hereafter referred to as the Vivarium).

OVERVIEW OF ANIMAL CARE & SUPPORT NEEDS

1. Animal health checks and health maintenance:

Animals will receive daily cage/health checks by qualified Vivarium personnel or other designated qualified personnel. The Attending Veterinarian or Consulting Veterinarian will triage sick or injured animals and determine a management plan when necessary.

a. Food and water supplies:

Vivarium staff shall ensure that all animals have an appropriate amount of food and water available to them. Food should be in adequate quantities, and in unadulterated form. If the appropriate food is not available, professional judgment must be applied to identify acceptable substitutes.

b. Sanitation:

For purposes of animal health, welfare, and research support, appropriate sanitation measures must be provided. Animal cages of some species must be changed and cleaned daily while others may go several days without inducing health or environmental issues. Increasing cage change intervals, spot cleaning instead of whole-cage changes, changing bedding instead of cage changes, hand washing some equipment, or deferring activities, such as floor mopping, may be required during disasters. The SHSU Attending Veterinarian or designee and/or the Vivarium Manager will decide which sanitation activities should be performed to provide the greatest benefit to the animals if it is not possible to maintain routine husbandry activities due to disaster/emergency conditions.

2. Environmental support (ventilation, temperature control, utilities):

Ventilation issues may include the loss of or diminished air supply or exhaust, loss of pressure differentials in critical areas, unacceptable temperature variations, contamination with agents such as chemicals, smoke, or loss of utilities necessary for powered equipment (e.g., hoods, autoclaves, ventilated racks). The SHSU Attending Veterinarian, the Vivarium Manager, and/or Facilities Management personnel should address ventilation issues with the overarching goals of maintaining at least some air movement in animal housing spaces, sustaining air pressure differentials in all rooms including barrier areas, and keeping temperatures as close to the acceptable range for each species as possible.

3. Animal Care Providers:

Personnel with adequate training (e.g., CITI/hands-on/NIMS/ICS, etc.) are essential to maintain animal colonies. However, personnel may be unable to work in facilities due to damage or dangerous conditions, physical obstructions (snowstorm or chemical spill nearby), or interruption of work (bomb threat, picketing, etc.). The Vivarium Manager or designee (i.e., Vivarium Assistant) will deploy available personnel to support animal health and well-being under the direction of the Attending Veterinarian or designee for up to one week as pre-determined by Vivarium Manager and SHSU Emergency Management staff. Trained volunteers including Vivarium staff, Office of Research and Sponsored Programs (ORSP) staff, PI's and research assistants may be asked to perform duties outside the scope of their typical responsibilities to protect animal health or well-being. The Attending Veterinarian or designee, in consultation as needed from the ORSP and Vivarium administrative personnel will make this decision. As soon as possible after a disaster or before the incident, when possible, a list of current/essential personnel that may need to access campus and the animal facilities will be provided to the University Police Department (UPD) dispatch so they may further distribute it to local, state, or federal authorities that may control access, including road closures.

EVACUATION OF ANIMALS

In an emergency situation, rapid and safe evacuation of all animals and humans from the designated area is the common goal for all responding agencies.

1. Decision to Evacuate

Evacuation will be considered based on the nature and magnitude of the disaster or event, the animal species potentially affected, and the feasibility of evacuation or relocation. The decision to evacuate animals will be made by the Vivarium Manager in consultation with the Attending Veterinarian or designee, and the Institutional Official. Once the decision has been made, animals will be evacuated using a University-owned vehicle, which will be accessible at the Texas Research Institute for Environmental Studies (TRIES), EH&S, someone on the emergency call list, or at the BearKat Wheels program. Scenarios where evacuation of animals may be appropriate include:

- Evacuation following an emergency that resulted in damage to the animal facility rendering it unsuitable for continued housing of animals.
- Pre-evacuation in the event of an impending disaster.

If there is an immediate threat to human health or safety – **PERSONNEL MUST NOT ATTEMPT TO EVACUATE THE ANIMALS**. Concern for animals is secondary to human life. Personnel should not place themselves in danger to remove animals from a building.

- Personnel working with animals near their cages, should time permit, will place animal(s) back in their cage(s).
- Personnel involved in a procedure while a disaster is occurring will euthanize the animal if time and conditions permit. **The Operations Manager for the vivarium in consultation with the IACUC's Attending Veterinarian or designee shall confirm that the emergency is legitimate prior to euthanizing an animal.**

If the evacuation of the animals is considered to avoid a hazardous situation, then predetermined evacuation procedures, including location and routes should be followed. If relocation is required, then, animals will be moved to another on-campus location temporarily or an off-campus site if necessary. Contact numbers are listed below for supervisory staff.

If it is not feasible to evacuate all animals, researchers should decide, in advance, which animals are the most critical to save. Principal Investigators (PIs) should be prepared to communicate priority to animal care staff in case of an emergency. All researchers are advised to cryopreserve sensitive lines off campus. Animals requiring biohazard housing may not be removed from the animal facility without direct approval from the Institutional officer, Department of Health & Safety, and/or the Attending Veterinarian or designee.

In case of a catastrophic emergency, injured or affected animals will be triaged by trained animal care personnel (veterinarians, research investigators and/or research staff). Treatment will occur on-site if possible or after evacuation to a predetermined area/site. Those animals with injuries too severe to recover will be humanely euthanized following AVMA guidelines.

All animal cages evacuated from the animal facility should have descriptive information attached to the cage. This information should be clearly displayed and include species,

estimated age, husbandry needs, original housing location, biohazard information, along with contact information of the attending veterinarian and PI. After an evacuation of personnel, the responsible person should contact UPD dispatch to make them aware of the situation, and then work together to determine when it is safe to return to the area with the animals.

2. **Evacuation Space: Short-Term & Long-Term Housing**

Sam Houston State University does not have a backup facility specifically prepared to evacuate all animals in the event of an emergency. However, the Texas Research Institute for Environmental Studies (TRIES), located <1 mile from the Vivarium, has climate-controlled lab space, which will be used as an animal triage space in an emergency, and a generator. Once the animals are re-located to TRIES, the Vivarium Manager will be responsible for the care and feeding of the animals. Once the emergency has ended, the Vivarium Manager will oversee the return of the animals to the Vivarium.

OTHER NATURAL DISASTERS

Surgical procedures should not be conducted if there is advance notice of a potential disaster. In addition to the SHSU Emergency and Disaster Plan, the following should be considered for animals.

Procedures & animal handling during or after a flood, earthquake, tornado, hurricane, or fire:

- If possible, leave rooms where hazardous materials (including anesthetic gas agents) are located.
- Secure radiation sources and other hazardous materials.
- If possible, turn off all gas lines and cylinders.
- Someone with supervisory authority must confirm that the emergency is legitimate prior to euthanasia.
- After the area has been deemed safe by the UPD, HPD, or HFD, Vivarium staff will be allowed inside the building to assess the need for evacuation and relocation of animals or humanly euthanized, if necessary.

SHELTERING-IN PLACE

In the event that the option to evacuate is not feasible, a shelter in place in a pre-determined safe location is the preferred method of safely waiting out events. Personnel should proceed calmly to the location designated for the building in which you are located. Windows, doors, and HVAC systems in the designated area should be closed.

A second definition of “Shelter in Place” may be used to describe when animal care personnel decide ahead of time to come to or remain in the facility for longer than normal. For example, when extreme weather is predicted, such as snow, ice, or a tropical storm which may prevent transportation or limit access to the animal facility to provide care as required by federal law. The Vivarium Manager and Attending Veterinarian, or designee, will coordinate to ensure that

personnel is available to care for the animals. Since events like this allow time for planning, the Vivarium Manager and Attending Veterinarian, or designee will ensure that personnel support supplies such as food, water, and bedding are available for those individual(s) remaining at the facility. If such a decision is made, the Vivarium Manager or Attending Veterinarian will notify UPD of the exact area where personnel remain; this is especially important when the University is “closed.”

Generally, the amount of animal feed kept in-house (including cage food, food in the feed supply bins, and food in the feed storage room) should be projected to allow for potential delays in feed shipment. Loss of power will be managed with redundancy. If such situation is likely during the workday, the Vivarium Manager or designee will closely monitor weather conditions. Animal care staff will be reassigned work tasks to assure that all critical tasks are completed (feed, water, security of animals) and then nonessential personnel will be sent home (timing to be consistent with recommendations from weather bulletin sources). For after-hours emergencies, Vivarium staff should call UPD.

Prior to a winter or tropical storm, when possible, cages will be topped off with food and fresh water. Animals that are fed once per day may be given full hoppers of food. Rodent cage hoppers and water bottle should be filled to capacity the day before the storm is expected.

CLIMATE CONTROL

1. HVAC Loss

Essential animal facility HVAC systems have a backup generator that automatically transfers on. However, any major utility failure should be reported to Facilities Management. If animal room environments cannot be maintained within published parameters, the animals may need to be relocated.

2. Overheating

In overheating events, move animals to rooms that are not over heating or to the hallway if it is cooler. If the whole animal facility is overheating, mobile cooling stations can be used to reduce the heat load. If animal rooms cannot be cooled, the Attending Veterinary (or designee) will make the decision to relocate or euthanize the animals if they are in distress.

3. Loss Of Heat

In the event of heat loss in the facilities, move animals to rooms that have heat or to the hallways if it is warmer, and/or use auxiliary heaters in animal rooms that have no heat. If animal rooms cannot be warmed or there is no warm place within the animal facility, the Attending Veterinarian will make the decision to relocate or humanely euthanize the animals if they are in distress or danger.

ANIMAL RIGHTS ACTIVISTS: PROTESTS / PICKETING

In case of protests or picketing (by animal rights groups, for example), Vivarium personnel are to report to work as usual. In doing so, they are to avoid confrontations if they pass through picket

lines or protest marchers. The SHSU Marketing and Communications Department (936-294-3492) will expedite the dissemination of information and address questions about research activities. The SHSU UPD is charged with all security-related issues and will increase security measures for all animal housing and support facilities while helping keep all facilities secure.

1) **Animal health checks:** If the number of employees on site is decreased, priority is given to activities which directly affect animal health and welfare: health checks and treatments, feeding, watering, and maintaining sanitation requirements.

2) **Food and water supplies:** Food and water supplies on-site should not be affected. Closing the receiving dock and deferring delivery locations may be considered if the primary location is unusable. Similarly, if the normal waste pick-up procedure is disrupted, waste may be taken out through a different exit location or kept in cold storage temporarily.

3) **Sanitation:** Sanitation should proceed normally, assuming sufficient personnel are present. If staff shortages occur, sanitation will be prioritized as described in animal health check protocols.

EMERGENCY SUPPLIES

The Vivarium will keep on hand at least a week's supply of food and water to provide proper care for the number of animals currently housed in the facility in the event of a disaster. The animal facility and satellite facilities support an adequate feed supply to meet the needs of a temporary disaster predicted for our region.

Additional supplies that should be kept on hand include:

- Drinking water and food for staff
- Flashlights, headlamps, and extra batteries
- Utility knife
- Heavy duty work gloves
- Sanitation needs (such as tissue paper, bleach, plastic bags, plastic bucket)
- Duct tape and/or barrier tape
- Personal first aid kit

A full list of facilities where animals are housed, and a full list of animal facility and key personnel contact information will be maintained by the Chief Research Officer and provided to UPD Dispatch and ORSP.

DISASTER PLAN TRAINING

The Intuitional Official (IO) will coordinate training with the Vivarium Manager and any new animal program staff. The frequency of training will be determined by the IACUC who is responsible for the overall animal emergency response program at SHSU.

DEMOBILIZATION (RETURN TO OPERATIONS) PROCESS:

When preparing to return the animals back to the facility, talk to the PI about the disposition of their research animals after the emergency is over.

EMERGENCY CONTACT INFORMATION & REFERENCES

Ed Tivador: Vivarium Manager	936-294-2674 Sciences Annex Office 847-275-9165 Cell tivador@shsu.edu
Mr. Rafael Martinez: Indoor Riding Arena	936-294-1218 SHSU Office 936-433-8297 Cell jsb071@shsu.edu
Joseph Snider: Gibbs Ranch	936-295-3213 Gibbs Ranch Office 361-396-8881 Cell jws063@shsu.edu
Dr. Autumn Smith-Herron Vivarium	936-294-3788 SHSU Office 936-661-7766 Cell ajs029@shsu.edu
Dr. Stephen White Baby chicks	936-294-1173 SHSU Office sww012@shsu.edu (662)801-7974
Dr. Michael Griffin Mice	936-202-5217 SHSU Office mxg166@shsu.edu (617)631-4709 Cell
UPD: Command Center	936-294-1000 Dispatch
EH&S (Mark Zumbach): Campus Safety	(936) 294-2342 SHSU Office (254) 423-5282 Cell mxz033@shsu.edu
Dr. Marcy Beverly: IACUC Chair	936-294-1222 SHSU Office 936-661-0937 Cell mmbeverly@shsu.edu
Gerry Etheredge, DVM IACUC Attending Vet.	936-662-0166 Cell 936-291-3672 Home hpcna@suddenlink.net
Michael Moore, DVM IACUC Attending Vet.	936-661-6929 Cell mcm014@shsu.edu SHSU email mcmooredvm@gmail.com Personal email
Sharla Miles: IACUC Administrator	936-294-4875 SHSU Office 936-650-9080 Cell iacuc@shsu.edu
Dr. Chad Hargrave: AVP-Research (IO)	936-294-1538 SHSU Office 405-326-3680 Cell

cwhargrave@shsu.edu

RESPONSIBILITIES

- A. SHSU IACUC - review and approve Emergency and Disaster Plan every other year.
- B. SHSU ORSP - provides resources and guidance to the IACUC, animal research investigators, and care staff on current regulatory requirements involving the requirements for disaster planning.
- C. PI's, research team members, and Vivarium staff - ensure that animals are labeled, if needed, as described in this plan.

REFERENCES

Federal regulations have set forth the requirement for each institution to develop Disaster Planning and Emergency Preparedness. These regulatory requirements can be found in the Eighth Edition of the Guide for the Care and Use of Laboratory Animals (the Guide) and the Animal Welfare Act (9 CFR Code of Federal Regulations).

Checklist of Disaster Planning Expectations in the Guide related to the Animal Care and Use Program at SHSU:

1. Gain situational awareness and determine appropriate calls to make as necessary (UPD Dispatch, Facilities, PI, the IO, etc.).
2. Define actions necessary with input from the PI and IO to prevent animal pain, distress, and death due to loss of systems such as those that control ventilation, cooling, heating, or provision of potable water. [Guide p. 35](#)
3. Animals that cannot be relocated or protected from the consequences of a disaster must be humanely euthanized. [Guide p. 35](#)
4. Identify essential personnel who should be trained in advance in its implementation. [Guide p. 35](#)
5. Personnel trained in emergency procedures for special facilities or operations. [Guide p. 74](#)
6. Access to essential personnel during or immediately after a disaster. [Guide p. 35](#)
7. In the event of an emergency, institutional security personnel and fire or police officials should be able to reach people responsible for the animals. [Guide p. 74](#)
8. Prominently posting emergency procedures, names, or telephone numbers in animal facilities or by placing them in the security department or telephone center. [Guide p. 74](#)

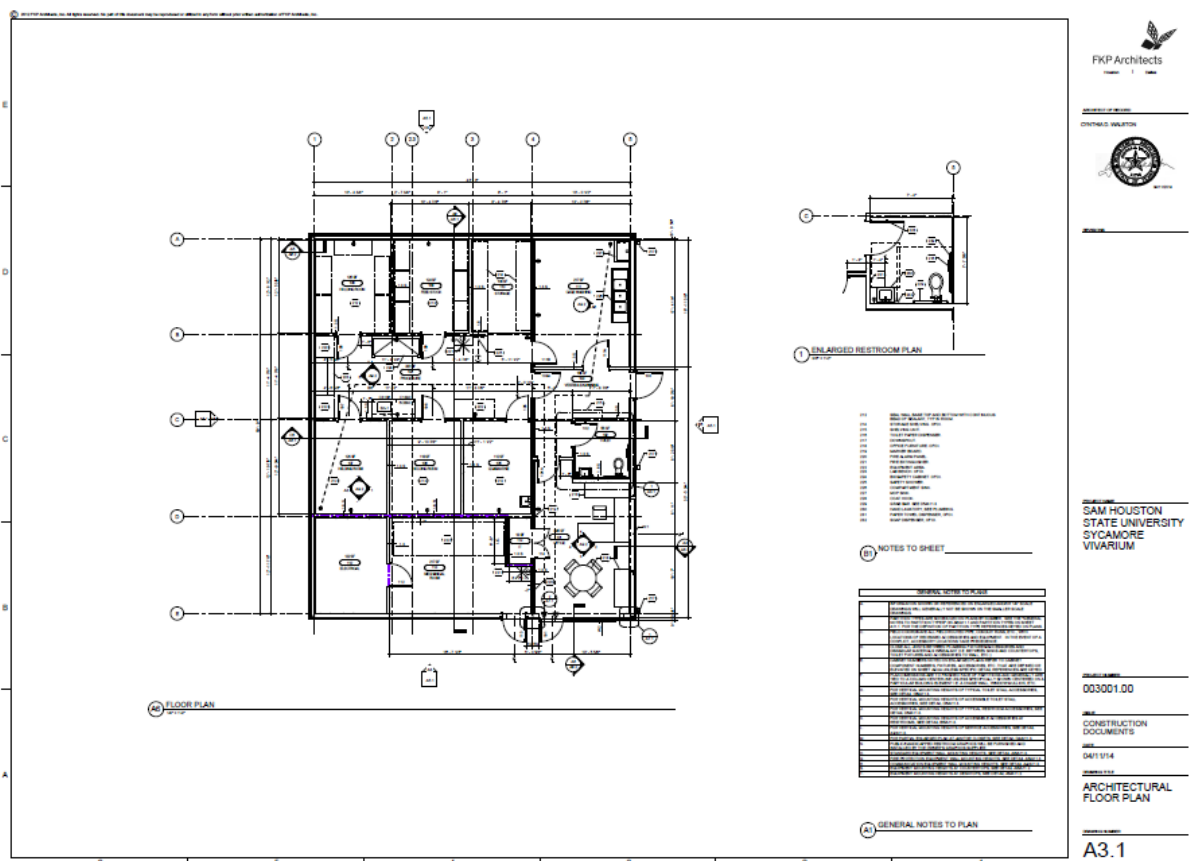
9. Emergency procedures for handling special facilities or operations should be prominently posted. [Guide p. 74](#)
10. The colony Supervisor or veterinarian responsible for the animals should be a member of the appropriate safety committee at the institution, an “official responder” in the institution, and a participant in the response to a disaster. [Guide p. 75](#)
11. Law enforcement and emergency personnel should be provided with a copy of the plan for comment and integration into broader, area wide planning. [Guide p. 35](#)
12. Threats that criminal activities such as personnel harassment and assault, facility trespassing, arson, and vandalism pose to laboratory animals, research personnel, equipment and facilities, and biomedical research at the institution. [Guide p. 23](#)
13. How the facility will preserve animals that are necessary for critical research activities or are irreplaceable. Priorities for triaging animal populations. [Guide p. 35](#)
14. Research facilities must develop, document, and follow an appropriate plan to provide for the humane handling, treatment, transportation, housing, and care of their animals in the event of an emergency or disaster (one which could reasonably be anticipated and expected to be detrimental to the good health and well-being of the animals in their possession). [USDA](#)
15. (i) Identify situations the facility might experience that would trigger the need for the measures identified in a contingency plan to be put into action including, but not limited to, emergencies such as electrical outages, faulty HVAC systems, fires, and animal escapes, as well as natural disasters the facility is most likely to experience. [USDA](#)
16. (ii) Outline specific tasks required to be carried out in response to the identified emergencies or disasters including, but not limited to, detailed animal evacuation instructions or shelter-in-place instructions and provisions for providing backup sources of food and water as well as sanitation, ventilation, bedding, veterinary care, etc. [USDA](#)
17. (iii) Identify a chain of command and who (by name or by position title) will be responsible for fulfilling these tasks. [USDA](#)
18. (iv) Address how response and recovery will be handled in terms of materials, resources, and training needed. [USDA](#)
19. The plan must be reviewed by the research facility on at least an annual basis to ensure that it adequately addresses the criteria listed in paragraph (1)(1) of this section. [USDA](#)
20. Each registrant must maintain documentation of their annual reviews, including documenting any amendments or changes made to their plan since the previous year’s review, such as changes made because of recently predicted, but historically unforeseen, circumstances (e.g., weather extremes). [USDA](#)

21. Contingency plans, as well as all annual review documentation and training records, must be made available to APHIS (Animal and Plant Health Inspection Service) and any funding Federal agency representatives upon request. [USDA](#)

22. The facility must provide and document participation in and successful completion of training for its personnel regarding their roles and responsibilities as outlined in the plan. [USDA](#)

23. Any changes to the plan because of the annual review must be communicated to employees through training which must be conducted within 30 days (about 4 and a half weeks) of making the changes. [USDA](#)

Appendix A: Animal Facilities Floor Plan



Appendix B: Facility Access to include access controls (who grants access to students, contractors, or visitors)

The doors to the Science Annex remain locked at all times. To request access, contact Facilities Management. Once granted, key card access can be revoked at any time.