

# FLSC Disaster Response Plan

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## 1. Introduction

A myriad of unexpected disasters can befall an animal research facility. Such disasters could result in conditions that impact the ability to provide daily care to the animals or may adversely impact their well-being. Public Health Service *Policy on Humane Care and Use of Laboratory Animals* (PHS Policy), the *Guide for the Care and Use of Laboratory Animals* (the *Guide*), and the Animal and Plant Health Inspection Service (APHIS) Animal Welfare Act amendment require that animal research facilities have a disaster contingency plan.

This disaster response plan addresses the principles of preparedness, response, mitigation, and recovery, which should be followed in the event of a disaster. The plan contains information on the following:

- Guidelines for animal users and FLSC staff for responding to potential emergencies or disasters
- Description of responsibilities of key personnel
- Actions necessary to prevent animal pain, distress, and death
- Plans to preserve irreplaceable animals or animals critical to research activities

All personnel working with or caring for animals in Freimann Life Science Center (FLSC) are strongly encouraged to read and be familiar with the plan and, in particular, their specific responsibilities under it.

## 2. Communication Plan and Emergency Contacts

- 2.1. The university alert system (ND alert) will be utilized for campus-wide emergencies. The campus system notifies personnel of emergency situations via text message, campus phone, voice mail, and email of university staff, faculty, and students.
- 2.2. FLSC staff will communicate with emergency response personnel (i.e., fire, police, etc.) regarding the nature of the disaster as necessary.
- 2.3. The Director/AV represents the first line of communication for disasters affecting the animal care and use program. The second person/people in the communication chain are the Vivarium Managers assigned to Galvin Life Science Center and Raclin-Carmichael Hall.
- 2.4. The FLSC Managers are responsible for communicating with staff. Staff will be contacted via email or phone call. If the Director/AV is unable to start the line of communication, the Vivarium Managers will be responsible for communication.
- 2.5. For emergencies requiring immediate notification and evacuation, the FLSC intercom system will be used to make a facility-wide announcement.
- 2.6. Research teams will be contacted and alerted to the situation by a member of the management team when necessary.
- 2.7. For disaster-specific communications, refer to the [Specific Disasters](#) section.

<b>FLSC Facility Contacts</b>		
Iris Bolton Director/AV	O: 574-631-5393 C: 281-222-6658	ibolton@nd.edu
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Teri Highbaugh Manager, Raclin-Carmichael Vivarium	O: 574-631-4305/ 574-631-5044 C: 574-276-2411	tsikorsk@nd.edu
Gwen Stayback Administrative Team Lead	O: 574-631-6085 C: 574-303-7457	gstaybac@nd.edu

Jennifer Knowlton Manager, Veterinary Care, and Training	O: 574-631-6087 C: 574-514-1172	jknowlto@nd.edu
Chris Payton Back Up Veterinarian	574-303-9588	info@michianavet.com
<b>UNDERC Satellite Facility Contacts</b>		
Michael Cramer Assistant Director	O: 906-842-2486 C: 574-904-7386	mcramer@nd.edu
Matt McClelland Property Manager	O: 906-842-2257 C: 715-493-9768	mmcclel2@nd.edu
<b>Campus Contacts</b>		
Campus Safety/Security	1-5555	
Notre Dame Fire Department	1-6200	
University Utilities	1-6594	
Risk Management and Safety	1-5037	
Facilities Operations	1-8888	
Public Relations	1-8696	

### 3. General Principals

- 3.1. In all cases, human safety takes precedence over animals. The first principle in any disaster is to evacuate all people from hazardous situations and attend to the needs of the injured.
- 3.2. When animals can be safely removed from a hazardous situation without placing humans at risk, an order of priority for rescue has been established ([Appendix 1: Animal Evacuation](#))
- 3.3. Any animals checked out of the animal facility or temporarily housed in investigator labs will not be returned to the animal facility until it is safe to do so. It will be the responsibility of the investigator to maintain the animals securely and provide for their well-being during any emergency situation. Should the areas where animals are temporarily secured be affected by the emergency, they will be retrieved according to the evacuation priority in [Appendix 1: Animal Evacuation](#).

- 3.4. The disaster response plan will be reviewed semi-annually by the IACUC as part of the semi-annual program evaluation or as changes occur. Any changes to the disaster response plan will be conveyed to the animal facility staff during a mandatory staff meeting and documented.

#### **4. Personnel Evacuation**

- 4.1. In those disasters requiring evacuation from FLSC, staff within the **Galvin facility** will meet to the east of FLSC at mid-sidewalk between Galvin and Jordan Hall. Further evacuation of personnel will require moving to the South entrance of Jordan Hall of Science at the sundial.
- 4.2. Staff within the **Raclin-Carmichael Hall (RCH) facility** will meet in the RCH parking lot at the first median. Further evacuation of personnel will require moving to the brick entrance of Notre Dame campus at Notre Dame Avenue across the street from RCH.
- 4.3. This plan will allow emergency personnel to establish that all staff have safely evacuated the building. Managers are responsible for accounting for FLSC staff. In the absence of managers, responsibility shifts according to seniority.

#### **5. Critical Service Concerns**

Various disasters (natural, technological, and mechanical) can lead to common impacts. There are seven critical areas of service that need to be maintained. An outline plan for maintaining/restoring each service is identified below.

##### 5.1. Staffing

###### In the event of an emergency or staffing shortage:

- Managers (in conjunction with the Director/AV) will determine the number of staff needed and how they will be deployed to maintain critical services at each animal facility.
- Managers will contact the necessary personnel.
- Responsibilities will be completed in order of priority. Prioritized responsibilities include:
  - Check the well-being of all animals at least daily.
  - Ensure that potable water and uncontaminated feed are protected, preserved, and provided to all animals.
  - Ensure that the environmental conditions (temperature, ventilation, and humidity) are maintained within acceptable ranges and that all emergency power equipment is functioning.
  - Evaluate enclosures daily and those change those that require to maintain an adequate environment.
- Responsibilities of the Director as outlined in this plan fall to the Managers and responsibilities of the AV fall to the contract veterinarian in the absence of the Director/AV.

##### 5.2. Loss of Power or HVAC

###### General Preparations:

- Planned outages should be communicated to the Director or respective Vivarium Manager in advance to allow for necessary facility preparations.
- FLSC has generator backup for cases of a power outage.
- Flashlights and chemical glow sticks are located throughout FLSC facilities. Glow-in-the-dark tape marks building features, such as doors and stairs, for guidance. Glow sticks are replaced according to the manufacturer's recommendations. The flashlights are checked quarterly and batteries are replaced as warranted.
- Animal room temperatures are monitored with portable battery-operated thermometers in addition to the power-dependent environmental monitoring system.

Action Plan:

- Verify that any equipment that requires power is properly connected to emergency backup power and working.
- If backup power fails, contact the Director or Vivarium Managers, and University Utilities.
- Aquatic species vary in their tolerance for static water. There is a plan in development to prioritize animals for evacuation at the discretion of the Director/AV.
- Should the dry-bulb temperature drop below that allowed by the *Guide* for each species, the animals will be given extra bedding and nesting materials and can be group housed as directed by the AV or Manager of Veterinary Care and Training.
- Should the dry-bulb temperature drop below 60°F, auxiliary heat sources will be considered as well as evacuation, if feasible. Animal evacuation procedures are outlined in [Appendix 1: Animal Evacuation](#).
- Should the dry-bulb temperature rise above that allowed by the *Guide*, the doors to rooms housing immunocompetent BSL-1 animals can be opened and cages or animals misted with water as directed by the AV or Manager of Veterinary Care and Training based on species needs and extent of excess.
- Auxiliary cooling sources will be considered as well as evacuation, if feasible. Animal evacuation procedures are outlined in [Appendix 1: Animal Evacuation](#).

### 5.3. Animal Containment / Housing

General Preparations:

- Rodent housing rooms contain passive traps for pest control and to help prevent research animal escape.

Action Plan:

- Close and block all exit doors to confine animal(s).
- Notify Director/AV and FLSC staff of escaped animals.
  - AV will assess the health and biohazard status of the escaped animal, and notify the proper departments.
- Capture may be attempted using safety precautions appropriate for the species.
- Place recaptured rodents in cages and put them into a quarantine area.
- Any ill or injured animals should be brought to the attention of the AV or Manager of Veterinary Care and Training and treated.
- Severely affected animals will be euthanized at the discretion of the AV or Manager of Veterinary Care and Training.

#### 5.4. Provisions of Food and Water

##### General Preparations:

- For anticipated loss (or limitation) of water, water containers will be prepared for filling in case it is decided to store extra water.
- Several months' worth of feed is ordered at a time and stocked in the feed coolers at RCH and Galvin. Feed inventory is conducted weekly, and orders are placed in advance to help prevent feed shortages.

##### Action Plan:

- For loss of potable water, contact the Director/AV and University Utilities.
- Seek working on-campus potable water supply. Fill carboys at identified locations as needed. Use carboys to fill water bottles for each cage of animals.
- If potable water supply has been disrupted campus-wide, gel packs, and bulk bottled water can be used for rodents to supply adequate hydration.
- Suspend the use of cage wash systems and washing machines. Use stocks of clean caging and scrubs until access to water is restored.
- Rely on previously diluted sanitation products or products that do not require dilution.
- For the limitation of feed, a backup supplier will be identified in case of disruption with primary supplier orders. Ration animal feed as appropriate.
- If the usual food is not available, the Director/AV may reach out to other research facilities or identify acceptable substitutes.

#### 5.5. Sanitation

If the autoclaves or cage washers become inoperable due to inadequate utilities or mechanical breakdown:

- Contact University Utilities and/or place a work order through the AiM system.
- Notify FLSC staff.
- Suspend use of cage wash systems and autoclaves.
- Use stocks of clean caging until access to steam is restored.
- If autoclaved cages or bedding is needed before operation is restored, seek autoclave use at the other FLSC building or on-campus locations.
- The Director/AV in consultation with the managers may dictate any of the following when normal sanitation cannot occur:
  - Spot cleaning instead of whole cage changes
  - Bedding changes rather than cage bottom changes
  - Handwashing equipment, and soaking cages and water bottles in a bleach solution
  - Deferring cleaning activities that do not directly affect primary enclosures
- Secure bagged and labeled biohazard waste in dirty side cage wash until autoclave operation is restored.

- Contact Risk Management and Safety (RMS) for instruction on biohazard waste disposal or any other waste disposal disruption concerns.

## 5.6. Security

### General Preparations:

- FLSC facility entrances are locked at all times to prevent unauthorized entry. Key card access is required to enter the facility areas, and is granted only to approved personnel.

### Action Plan:

In case of a security breach:

- Immediately notify University Security (1-5555), followed by the Director or Managers, who will notify FLSC staff and University Public Relations (1-8696).
- Do not venture into the animal facility until University Police/Security has determined that no intruders are still present.
- Should unauthorized entry occur during business hours or an active shooter situation occurs, and you have access to an intercom phone without peril to your own safety, announce “CODE SILVER”. This will alert all personnel in the facility that a break-in/active shooter situation is in effect and they should exit the building if possible.
- Do not answer questions posed by media persons or other non-university persons.

## 5.7. Provision of Veterinary Care

### General Preparations:

- A backup veterinarian is available in cases where the AV cannot perform veterinary care and other AV duties as outlined in this plan.

### Action Plan:

- Triage of animals in emergencies will be performed by the AV and the Registered Veterinary Technicians under the supervision of the Manager, Veterinary Care, and Training.
- Evacuated animals will be examined and first aid initiated under the direction of the veterinary staff as soon as all animals have been secured and personnel have been accounted for.
- Animals not evacuated will be triaged (according to the priority order established in [Appendix 1: Animal Evacuation](#)) as soon as personnel are cleared for readmission to the animal facility.
- Euthanasia will be performed at the direction of the AV or Manager for Veterinary Care and Training for those animals severely affected, ill, or injured.

## 6. Specific Disasters

### 6.1. Fire

- Immediately pull a fire alarm.
- Contact the Notre Dame Fire Department at 911 or 1-6200.
- FLSC has fire extinguishers available and all personnel are trained on the use of the extinguishers. Only attempt to extinguish a fire if trained and it is safe to do so.

- All personnel will evacuate the building and meet at the designated meeting area detailed in the [Personnel Evacuation](#) section.
- Rescue of animals will be coordinated by the Fire Department when it has been determined that such an effort would not put any personnel at risk.
- Triage animals as outlined in the [Provision of Veterinary Care](#) section.

#### 6.2. Tornado

- In the event of a tornado warning, the Managers will use the intercom to notify all personnel within FLSC facilities to seek shelter in the basement of Galvin/RCH.
- Once the tornado hazard has abated, proceed to the animal facility to assess the damage and assist emergency personnel in the rescue of animals if needed.
- Contact 911 as necessary for human injury, danger, or fire.
- Triage animals as outlined in the [Provision of Veterinary Care](#) section.

#### 6.3. Flooding

- Contact Facilities Operations (1-8888).
- Contact the Director or Managers to inform them of the situation.
- Move animals in direct danger to a secure area of the facility.
- Place any animals exposed to water in clean, dry cages in an area away from the flooding.
- In the case of severe flooding or the presence of sewage, water removal will be coordinated with Building Services and RMS.
- Light flooding can be cleaned up using a mop and/or a wet vacuum by animal facility staff.
- Triage animals as outlined in the [Provision of Veterinary Care](#) section.

#### 6.4. Winter Storm

- Should a winter weather emergency be declared and the University suspends operations, contact the Lead Administrator with respect to the need to report to work.
- The Lead Administrator in consultation with the Director, will determine if an adequate number of individuals are able to travel safely to report to work and then notify others to remain at home.
- The Director or Lead Administrator will notify staff if early dismissal is necessary.
- Refer to section 5.1 [Staffing](#) for prioritized work responsibilities.

#### 6.5. Toxic Fumes / Chemical Spills / Biohazard Leak

- Immediately notify the Director, Managers, and RMS (1-5037) in the case of toxic fumes.
- If proper precautions for the specific hazard are known, and appropriate personal protective equipment is available, move animals to a safe area.
- Chemical spills of less than 4 gallons should be contained utilizing the Chemical Spill Kits located in the dirty side cage wash areas.
  - If the spill is in excess of 4 gallons, or you are unsure of the chemical type or precautions to take, notify RMS after informing the Director and Managers.
- Triage animals as outlined in the [Provision of Veterinary Care](#) section.



## 7. Off-Campus Satellite Facility (UNDERC)

FLSC has animal use oversight responsibilities at a satellite animal facility located at the University of Notre Dame Environmental Research Center (UNDERC) in Land O' Lakes, Wisconsin. This facility houses wild-caught fish, amphibians, and rodent species on a short-term seasonal basis, and functions independently from the main-campus facilities. The Assistant Director of UNDERC is responsible for disaster response at the satellite animal facility.

### 7.1. Building Evacuation

- In the event of an evacuation event, secure the animals leave the building. All personnel will evacuate the building and meet at the designated area (Craig House). The Director or Assistant Director of UNDERC is responsible for accounting for all personnel in the event of a disaster.
- Personnel will not be allowed into the building and animals will not be evacuated until first responders have secured the area and approved entry to the affected buildings.
- At the discretion of the Assistant Director of UNDERC, some animals may be released into the environment from which they were captured.

### 7.2. Provision of Veterinary Care

- At UNDERC, the PI and Assistant Director may administer basic first aid to animals. More advanced care may be provided through consultation with the FLSC AV, FLSC veterinary technicians or by contacting Northwoods Wildlife Center (715-356-7400; <https://northwoodswildlifecenter.org/>)
- Evacuated animals will be examined and first aid initiated under the direction of the PI or Assistant Director.
- Animals not evacuated will be triaged as soon as personnel are cleared for readmission to the animal facility.
- Euthanasia will be performed at the direction of the PI or Assistant Director for any animal not expected to recover from illness or injury.

### 7.3. Power Outage

- Notify the Assistant Director of UNDERC.
- The animal lab buildings have backup generator power capable of providing power for essential systems for 2 days or longer.
- Flashlights are available in the building.

### 7.4. Fire

- Immediately notify all others in the animal lab building to evacuate to Craig House.
- Place an emergency call to 911.
- In the event of a forest fire:

- Communicate with the Property Manager
- Release animals to the location from which they were trapped, if possible.
- All animals will be released or humanely euthanized prior to evacuation
- Evacuate the UNDERC property in a coordinated manner.

#### 7.5. Tornado

- With advanced warning, personnel will shelter in the Craig House basement area.
- Gather in the interior rooms of the Wet Lab or Hank Lab (if evacuation to the Craig House basement is not possible).

#### 7.6. Flooding

- Communicate with the Assistant Director.
- Move animals in direct danger to a secure area.
- Place any animals exposed to water in clean, dry cages in an area away from the flooding.
- In the case of severe flooding or the presence of sewage, water removal will be coordinated with the Property Manager.
- Light flooding can be cleaned up using a mop and/or a wet vacuum by personnel.

#### 7.7. Winter Storm

- Winter storms do not pose a threat to the functioning of the UNDERC facility; no personnel are on-site and animals are not held during the winter season.

## Appendix 1: Animal Evacuation

### Facility Access:

1. Use master key  
Master key works on all interior and exterior door locks
2. Use card key  
Fire Department and Security have card key access

### Raclin-Carmichael Hall (in order of priority):

**Remove ALL top priority animals BEFORE lesser priority animals**

1. Breeding Animals
  - All racks in room 028 and some in 031 and 033
  - Unplug blower unit, disconnect water coil
  - Disconnect blower couplings from ceiling vent
  - Remove blower unit
  - Pull racks from room and exit area
  - Racks removed from animal facility can be moved to Raclin Carmichael upper floors
  - Racks removed from building can be taken to Harper Hall
2. Other animals will be moved in the following order: conventional housing, barrier housing and then containment housing at the Director's discretion

### Galvin Life Science Center (in order of priority):

**Remove ALL top priority animals BEFORE lesser priority animals**

1. Breeding Rodents
  - Limited racks in rooms 406 and 456
  - Unplug blower units, disconnect water coil
  - Disconnect blower couplings
  - Remove blower units
  - Pull racks from room and exit area
  - Racks removed from animal facility can be moved to Galvin
  - Racks removed from the building are taken to Jordan Hall
3. USDA species
  - **Only** animals in rooms not containing a biohazard are to be moved
  - Run-housed animals will be placed into cages or transport crates
  - Disconnect water coil
  - Pull racks from room and exit area
  - Racks removed from animal facility can be moved to Galvin
  - Racks removed from the building are taken to Jordan Hall
4. Other animals as permitted **AFTER** all priority animals have been moved.
  - Remove non-breeding rodents on vent racks in the same manner as breeding rodents
  - Remove water bottles from static caging before transport
  - Do not evacuate aquatic animals
5. Animals exposed to biohazards are only moved at the Director's discretion